MLM-MU-78-69-004

RECEIVEC JUL 0 1 1990 OSTI

INSTRUMENTATION FOR PRICETOWN I IN-SITU COAL GASIFICATION PROGRAM

R. E. ZIELINSKI P. W. SEABAUGH O. R. AUSTIN R. G. CORLEY

SEPTEMBER 8, 1978

MOUND FACILITY Miamisburg, Ohio 45342





operated by **MONSANTO RESEARCH CORPORATION** a subsidiary of Monsanto Company

for the

U. S. DEPARTMENT OF ENERGY

Contract No. EY-76-C-04-0053 AC04-76DP00053

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED MASTER

L

MLM-MU-78-69-004

INSTRUMENTATION FOR PRICETOWN I IN-SITU COAL GASIFICATION PROGRAM

PREPARED BY: R. E. ZIELINSKI P. W. SEABAUGH O. R. AUSTIN R. G. CORLEY

SEPTEMBER 8, 1978

, M

MOUND FACILITY

Miamisburg, Ohio 45342

operated by MONSANTO RESEARCH CORPORATION a subsidiary of Monsanto Company

I. S. DEPARTMENT OF ENERGY

Contract No. EY-78-C-04-0053

Ľ ×

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

TABLE OF CONTENTS

1.	INTRODUCTION 1
2.	GAS TRAIN ANALOG INSTRUMENTATION 1
3.	GAS ANALYSIS SYSTEM 3
4.	AUTOMATIC DATA ACQUISITION AND CONTROL SYSTEM10
5.	LIST OF CONTRIBUTORS25

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof. <u>,</u>

INSTRUMENTATION FOR PRICETOWN I IN-SITU COAL GASIFICATION PROGRAM

I. INTRODUCTION

The Morgantown Energy Technology Center (METC) is developing the technology required to recover the deep thin seam Eastern bituminous coal resource by gasification in-situ. The approach is to prove concepts through field tests and to support field testing with theoretical modeling.

METC is currently fielding Pricetown I, the first of two tests scheduled for the Pricetown, West Virginia, underground coal gasification field test. Pricetown I is a small-scale test designed to provide information concerning the in-situ characteristics of the Pittsburgh coal seam; to gain additional experience in the in-situ combustion and gasification of bituminous coal; and to evaluate the functional applicability of the linked vertical concept to recover the Eastern resources.

Mound Facility is participating with METC in the design and the implementation of the instrumentation necessary to monitor the surface and subsurface process and product gas stream; and acquire real-time gas analysis and subsurface thermal data. The principal objective of this effort is to provide an integrated instrumentation system that will permit rapid automatic monitoring of subsurface and surface varibles and to ensure data storage, retrieval and reduction for process monitoring and results interpretation. Mound also will support METC with the manpower and technical assistance necessary to operate the field instrumentation during the in-sity testing.

II. GAS TRAIN ANALOG INSTRUMENTATION

The analog instrumentation will provide flow, pressure, and temperature monitoring and control systems for the high (<1000 psig) and low (<350 psig) compressed air injection piping systems which feed combustion air to the coal seam. Similar flow, pressure, and temperature instrumentation is to be applied to the product gas collection (750°F, 125 psig) system.

The instrument design will consist of using electronic transmitters, indicators, controllers and recorders with pneumatically operated control valves. The control panel will be a Fisher type modular design with a sixteen point annunciator, four indicating controllers, twelve indicators and two three-pen recorders. A listing of the control panel instrument loops that will be provided are given in Table 1. The Loop Diagrams and Instrument Specifications are contained in Appendices 1 and 2.

III. GAS ANALYSIS SYSTEM

Introduction

The key to reliable, continuous on-line gas analysis is a well designed sample conditioning or clean-up system. The sample conditioner must prepare the gas for analysis, presenting to the analytical instruments a continuously flowing sample which is harmless to the instrument but which is unchanged in its compositional integrity. The sample conditioning system for the Pricetown I field test is designed to meet these basic requirements.

Details

A schematic diagram of the gas analysis system is shown in Figure 1.

The gas analysis is performed by equipment consisting of a mass spectrometer, two process gas chromatographs, and a chemoluminescent NO/NO_X analyzer. These instruments are time-shared between the various test wells and the product gas system under the direction of a computer. The source gas for analysis is selected by operation of automatic valves. Provision is made for manual operation in the event of computer failure, or when a special sample or calibration run is needed. The gas constituents analyzed for, the compositional ranges of, and the precision for the instrumental methods are listed in Table 2.

1. <u>Product Gas.</u> The product gas for analysis is taken from the process lines just downstream of the pressure reducing valve and ahead of the incinerator. Process conditions at this point during normal operation are anticipated to be 700°F and 5 to 45 psig.

To minimize downtime for maintenance and repairs, redundant conditioning systems are utilized on the product gas sample. That is, parellel, identical clean-up trains are provided from the sample point to the gas analysis room. However, only one of the clean-up trains is in use at a time. This will allow maintenance or reconditioning of one sample system while the other is in operation.

In operation, a portion of the hot process gas is removed from the process through a sample probe designed to exclude particulate materials and inserted into the process line. This gas receives substantial pre-conditioning prior to being transported 60-75' to the analyzer room for final clean-up and analysis. The pre-conditioning components are all mounted in a heated, insulated oven near the sample point and maintained at 350°F.

TABLE 1

Control Panel Instrument Loops

Ă

Loop ID	Title
PICA-10	Low pressure (350 psig) Air Header Control
PI-11 FICA-20 TI-30	High Pressure (1000 psig) Air Pressure High Pressure Air Flow Control High Pressure Air Temperature
PI-12 FICA-21 TI-31	Low Pressure Air Pressure Low Pressure Air Flow Control Low Pressure Air Temperature
FI-22,23	Product Gas Flow (High Volume, Low Pressure)
FI-33A, 33B	Product Gas Flow (Low Volume, High Pressure)
TI-24 PI-27 TI-25 PI-28 TI-26 PI-29	Well Head P1-1 Temperature Well Head P1-1 Pressure Well Head P1-2 Temperature Well Head P1-2 Pressure Well Head P1-3 Temperature Well Head P1-3 Pressure
TI-32	Product Gas Header Temperature
PICA-17	Pressure Control-Product gas to Incinerator
ZA-50	CO Monitor/Alarm-Control Building
ZA-60	CO Monitor/Alarm-Well Heads
The following are	local field mounted instruments:
TI-13 PI-14	Wet Instrument Air Header Temperature Guage Wet Instrument Air Header Pressure Gauge
PCV-15 PSV-16	Back-up Instrument Air Supply Regulator Back-up Instrument Air Supply Pressure Relief
PAL-18	Low Instrument Air Header Pressure Alarm
PI-19	Instrument Air Header Pressure Gauge
PCV-20	Instrument Air Header Pressure Regulator

3.

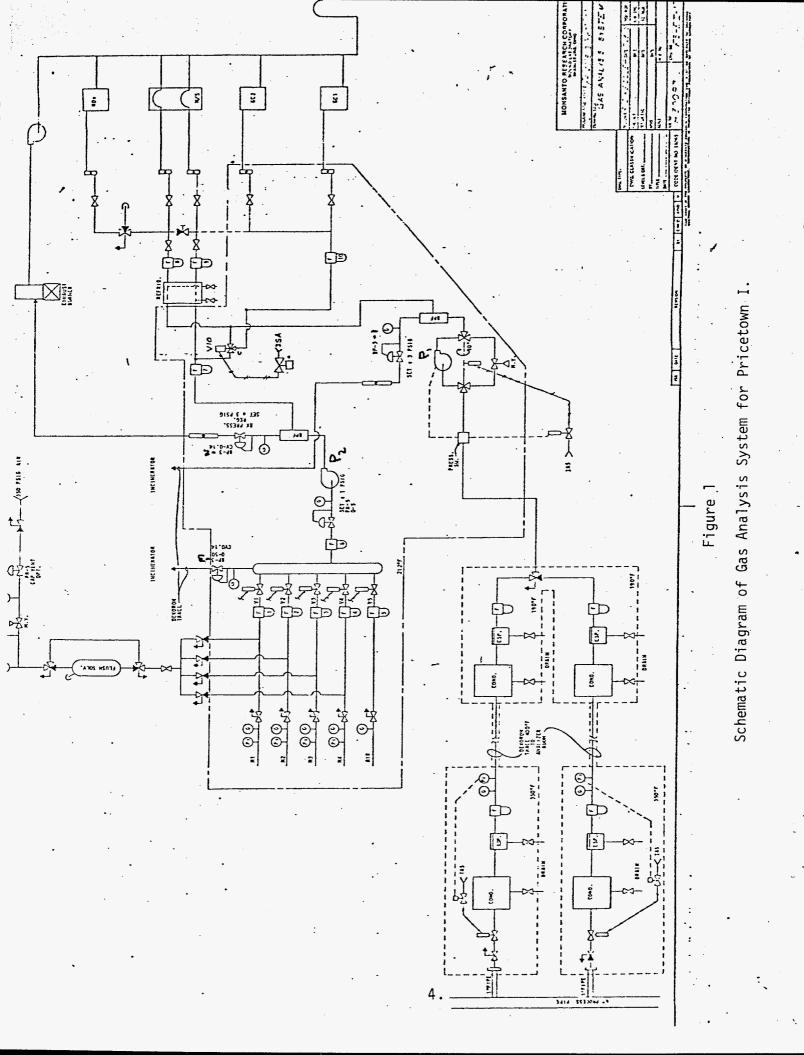


TABLE 2

Specifications for Coal Gasificat

		Gas Chromatograph	
<u>Constituents</u>	Composition	Range	Precision*
H ₂ N ₂ CO ₂ CO CH ₄ Argon/O ₂ H ₂ O H ₂ S SO ₂ Ethane Propane Butane HCN COS	0-25% 0-100% 0-20% 0-50% 0-25% 0-25% 0-25% 0-20% 0-3% 0-3% 0-2% 0-2% 0-2% 0-2% 0-2% 0-2000 0-1000	ngq	±2% """"""""""""""""""""""""""""""""""""
		Mass Spectrometer	
$\begin{array}{c} CH_{4}\\ CO\\ H_{2}\\ O_{2}\\ CO_{2}\\ N_{2}\\ H_{2}S\\ Argon \end{array}$	0-50% 0-20% 0-20% 0-20% 0-20% 0-100% 0-3% 0-2%		±2% """"""""""""""""""""""""""""""""""""
	• •	<u>Chemoluminescence</u>	
NO NO 2 NO _X			±2% "

*Analyzer precision is defined as deviation in measurement of standard gas at any time, assuming weekly calibration.

A manual shut-off value in the sample line is followed by an automatic value which is activated by a pressure sensing switch (Px on the diagram) located slightly downstream in the sample line. The auto shut-off value closes in the event of high pressure (≥ 60 psig) to protect other components of the sample system. Once the automatic over-pressure value has closed it must be manually reset.

A small condenser is used in the pre-treatment oven to condense compounds in the gas stream which vaporize above 350°F. The gas leaving the condenser is at approximately 350°F and contains liquid droplets of tar and high boiling point compounds formed in the condenser. A manual drain valve is provided to periodically remove collected liquid from the condenser.

The function of the electrostatic precipitator (ESP) is to collect and remove, from the sample gas stream, solid particles and liquid droplets, whether entrained and carried out of the process or formed in the condenser. A manual drain is also provided on the ESP.

The filter following the ESP provides a final polish to the gas, trapping any mist or other particles which escape the ESP. This filter, as are all filters in the system, is a commercial item having a stainless steel body and an easily replaceable element.

The sample gas is conveyed from the pre-treatment oven to the gas analysis room via insulated, heat traced stainless steel tubing, 3/8 in.-dia., maintained at 400°F. The sample, at this point, has been stripped of high boiling point compounds. Lower boiling point compounds which remain in the gas are kept vaporized by the hot sample line (400°F) and the gas is conveyed to the analyzer room for further cleanup prior to analysis.

Further cleanup is accomplished by first passing the 400°F gas through a condenser operated at 190°F where liquid droplets of light and middle weight oils are formed. This condenser is maintained at the lowest temperature (190°F) in the hot part of the clean-up system.

Another ESP, located just after the 190°F condenser, removes droplets and particulates. A drain is available on this ESP as well as on the 190°F condenser. A filter follows the ESP. These components, just described, are maintained at 190°F in an oven separate from the other components of the clean-up system. Redundancy is maintained through this point by having two, parallel 190°F ovens. A manual three-way selector valve in one of the ovens is used to select either one of the two parallel sampling trains. The sample gas at this point is at approximately 190°F and has been stripped of tars and most of the oils. The 190°F gas from the selected sampling train flows into a higher temperature oven in which all hardware components are maintained at 212°F. The 212°F oven is closely coupled to the 190°F oven to prevent cold spots in the transition. The higher temperature reheats the gas and prevents condensation of lower boiling point compounds.

Since it is deemed desirable to sample the product gas even where there is no positive pressure in the process lines, an automatic pressure switch is provided to start pump P_1 if the pressure drops below approximately 5 psig. When the line pressure is sufficiently high, the pressure switch activates automatic valves to bypass the pump and turn it off. These components are located in the 212°F oven.

In this hotter zone, and following the pump/valve system, the sample gas flows into a bypass filter (BPF) through which a larger main flow passes unfiltered. A smaller sidestream is taken through the filter element of the BPF for additional cleaning of the gas going to the analytical instruments. The larger mainstream flow goes through a back-pressure regulator (BP-3-1, set to regulate at 3 psig), a rotameter, and on to the incinerator for disposal. The bypass filter enhances time response, allowing a high rate of flow while filtering and passing only a small flow to the analytical instruments.

The smaller sidestream is split to provide sample gas to the mass spec process flow loop and the NO_X analyzer continuously. If the computer so directs, 3-way valve V_{10} is opened to also direct the process gas into the two gas chromatographs.

Sample gas to the NO_X analyzer and the mass spectrometer is cooled to a sub-ambient temperature with a refrigerated condensing system, filtered, and passed in separate streams into the two analyzers.

Split flows are taken from the GC stream to operate GC_1 and GC_2 in parallel. The sample gas for the GC's is not cooled, but is main-tained at 212°F to preserve water and low boiling point organic materials in the gaseous state for measurement by the GC's.

All exhaust gases from the analyzers are passed to the incinerator or flare for disposal.

 <u>Test Wells</u>. The sample conditioning system for the test wells, M₁ through M₄, is designed to operate independently of the downhole pressure. It is anticipated that this pressure may vary from 0 psig to about 350 psig. Sample gas from the test wells is brought to the surface through $\frac{1}{4}$ " stainless steel tubing. At a depth of about 4' underground (below the prevailing frost line), Dekoron electrically traced and insulated sample line is coupled to the longer, unheated downhole tubing. The Dekoron line is used to convey the sample gas to the analyzer room and is operated at about 250°F to keep the withdrawn gas totally vaporized.

The test wells are sampled sequentially by operation of V_1 through V_5 as directed by the computer. However, at least one of these valves is open at all times. The valving logic is more fully discussed in a separate section, below.

Gas flow from the test well being sampled enters the main, $212^{\circ}F$ oven from a Dekoron line. A pressure transducer (Px), located in the oven provides data to the computer for logging test well pressures. A gauge (G) is available for immediate indication of line pressure. A manual shut-off valve following the gauge is available for line isolation.

The gas flow is through a coarse filter $(F_1 - F_5)$, the automatic valve, and into a ring manifold. The ring manifold minimizes the effects of dead volume inherent in valving a number of lines into a common point. F_6 is a filter in the common line from the ring manifold and provides finer filtering of the selected test well gas. PR-5 is a pressure regulator set to regulate at 1 psig.

A pump follows PR-5 and is used to increase the gas pressure up to 3 psig as set on the back pressure regulator BP-3-2. In the event that downhole pressure is atmospheric (O psig), PR-5 will open fully and the pump will still provide 3 psig at its discharge. Thus as downhole pressure varies between 0 and 350 psig, the pump input is limited from 0 to 1 psig by PR-5, and the output remains constant at 3 psig. This identically matches the pressure available at the bypass filter in the product gas system so that equal pressures are presented to the downstream analytical instruments regardless of the gas source.

A bypass filter (BPF) takes the mainstream flow through a rotameter and to the incinerator for disposal. The filtered stream from the bypass filter goes through one channel of the refrigerated condenser, another filter, a flow adjusting rotameter, and into one channel of the mass spec.

The refrigerated condenser operates at 43° F and cools the sample gas to remove most of the water and light oils. Before analysis the gas will be at ambient temperature.

If directed by the computer, 3-way valve V_{10} is opened in the direction to take the test well sample into the two gas chromatographs.

Since the downhole pressure will at times be quite high, a means is provided at the ring manifold to increase the sample flow rate from the test wells under high pressure conditions. This is necessary since the compressed volumetric flow of gas is only a fractional part of the volume flow at atmospheric pressure. A backpressure regulator (BP-3-3) is set to bleed off excess gas at pressures above 25 psig and increase the flow as needed. The bleed gas is discharged to the incinerator.

A backflush system is coupled to the test well lines just ahead of the course filter, F_1 through F_5 , and is utilized to put either high pressure argon or a liquid solvent into the test well line for periodic cleaning. The backflush system is manually operated, completely subject to operator control

3. <u>Time-Sharing Logic</u>. The analytical instruments are time-shared between the various gas sources by having control valves V_1 through V_5 and V_{10} under the direction of the computer. Additionally, the mass spec instrument is directed by the computer through valving internal to the instrument to analyze either the product gas or the gas from the ring manifold (one of the test wells). See Section IV for details. Both of these gas streams flow continuously through the mass spec, although only one is being analyzed at a time.

The arrangement of the automatic valving is such that any gas source (M₁ through M₄, or the product gas) can be connected to either the two GC's or the mass spec. The NO_x analyzer is not time-shared

Time-sharing logic is built around operation of the mass spec. Thus, in operation, the mass spec will alternately analyze the product gas and whichever of the test wells is connected to the ring manifold (through one of V_1-V_5). The mass spec stream switching will be at the rate of about once every two and one-half minutes, toggling alternatively between test well gas and product gas.

Automatic valves V_1 to V_5 will be opened in sequence. However, one of the five will always be open to supply test well gas to the test well channel of the mass spec.

Maximum utility will be derived from the two GC's, which have approximately a fifteen minute analysis cycle time, by basing the selection of the source gas on the relatively high-speed mass spec analysis. In other words, the GC,s will be directed to analyze the particular gas source of most interest as determined by the computer from the mass spec analysis. Valve V_{10} is the selector valve for GC's and is either in a position to flow product gas or test well gas to the GC's. Summarizing the overall logic, the mass spec alternatively analyzes the test well gas and the product gas on approximately a five minute cycle. Both streams flow continuously through the instrument. As the product gas is being analyzed for a two and one-half minute period, the selected test well gas continues to flow. At the end of the product gas analysis period ($^2\frac{1}{2}$ minutes) the mass spec begins analysis of the test well gas for a two and one-half minute period. The mass spec then switches back to the product gas, and after a very brief delay, the next well valve (V_1-V_5) is opened in sequence. Thus the mass spec analyzes the product gas alternatively with one of the test wells. This allows maximum time (5 minutes) for test well line purge, and devotes most of the overall analysis time to the product gas. The overall cycle time, assuming four test wells, would be twenty minutes.

The computer program will also allow the mass spec to dwell for more than one cycle on any test well having a gas composition of particular interest. However, the product gas will continue to be analyzed alternatively.

The two GC's, operated in parallel, will analyze the particular test well gas having the highest interest, as determined by the computer from the mass spec analysis. The gas stream to the GC's is selected by operation of V_{10} .

Although the normal sequence of valve operation will be controlled by the computer, all valves will have manual override switches for opening and closing valves independently of the computer and in case of computer failure.

4. <u>Data Logging</u>. Analytical data will be recorded independently of the computer. Each GC has an analog strip chart recorder for preserving GC outputs. A digital data logger will be used to collect output data from the mass spec and NO_x analyzers.

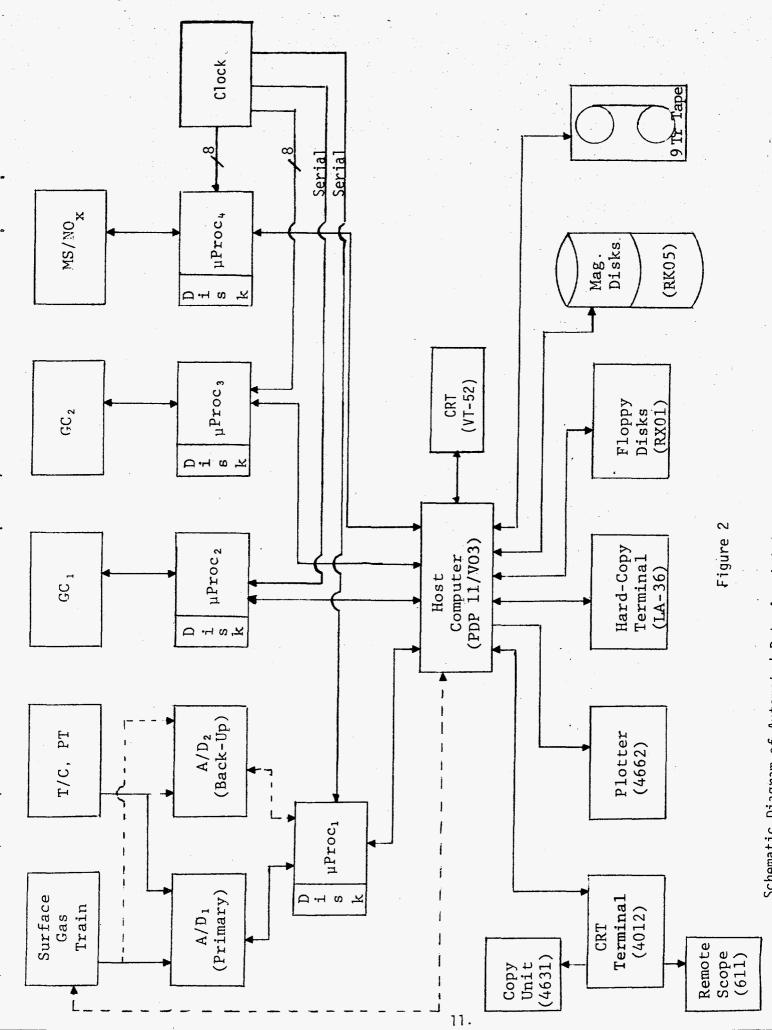
IV. AUTOMATED DATA ACQUISITION AND CONTROL SYSTEM

Introduction

A real-time automated data acquisition system should include features such as dependability, ease of maintenance, rapid problem isolation and backup capability. A schematic diagram of the Pricetown I system indicating such features as well as the overall layout is shown in Figure 2.

<u>General Description of the Automated Data Acquisition and</u> Control System

The four satellite microprocessors are interfaced to a host minicomputer



Schematic Diagram of Automated Data Acquisition and Control System for Pricetown I.

(LSI-11) which acts as a data collector-concentrator. As indicated in Figure 2 each satellite microprocessor is assigned a specific acquisition and/or control function. For example, microprocessor 4 provides signals to the gas chromatograph satellites when its detection algorithm detects unusual data occurrences. All satellites record data on diskettes as the data are collected. The diskette is managed as a first-in, first-out (FIFO) buffer so as to always have as many current data items as possible on the diskette. Consequently the oldest data items are overlaid by the most current data items.

Data items are transmitted from the satellite microprocessors upon command from the host computer. The position of the data item last sent is maintained by the satellite processor so that the satellite software can detect the situation where the diskette FIFO buffer overflows before the host computer receives the data item. This overflow condition is transmitted to the host computer on the first opportunity.

Each satellite microprocessor maintains a time-of-day clock which is updated from a signal received from the clock module. All satellites are based on a M6800 microprocessor and all software for these microprocessors is coded in assembler language. The clock module is based on a INTEL 8080 microprocessor and is also coded in assembler language.

Three basic categories are collected by the described data acquisition and control system. They are temperature readings and associated emf readings from each of the 40 downhole thermocouples (10 per monitoring well); gas compositions obtained by mass spectrometry, NO_X analyzer and gas chromatography from each monitoring well and the product stream; and process variables and alarms associated with the gas train system. The acquired data are passed to the host computer where they are partitioned into various file structures for graphic control and report purposes. On a schedule basis all acquired data are written on an IBM format compatible magnetic tape for a historical record and for further data analysis.

1. <u>Gas Train Varibles</u>. Analog signals, 4-20 ma D.C., from the terminals of the analog display on the control panel are routed to a Digitrend Data Logger for transmission to the host computer system. These signals are generated and transmitted from differential pressure, pressure, and temperature transducers and thermocouples strategically placed along the gas train.

For the high pressure, low volume injection air (reverse link mode) differential pressure, pressure, and temperature transducers designated as FICA-20, PI-11 and TI-30, respectively, are monitored and used for mass inflow computations. Likewise differential pressure, pressure, and temperature transducers designated as FICA-21, PI-12 and TI-31, respectively, are monitored and used for mass inflow computations during the low pressure, high volume injection air for the forward gasification mode. A backpressure control loop designated as PICA-17 and placed downstream from the orifice metering station is used to monitor the backpressure. The PICA-17 instrument loop provides product gas header backpressure regulation. The purpose is to keep the product gas flow from exceeding 250 ft/sec. To measure the product gas flow during the reverse link, signals from two differential transducers designated as FI-33A and FI-33B are used. Because they monitor parallel piping only one of these transducers is active at any given time. Similarly, differential pressure transducers labeled FI-22 and FI-23 are used to monitor the differential pressure during the high volume, low pressure product gas flow for the forward gasification. A temperature transducer upstream from the orifice metering station is used to measure the product gas temperature.

As just indicated, data from these data nodes are collected for process monitoring, mass flow computations, and process control. Normally the data will be collected at the rate of one data point per 12 minutes. But the data collection rate also can be event driven by unusual data occurrences and can be as high as one data point per 15 seconds. The actual data density is controlled by two parameters passed to microprocessor 1 from the host computer. If, however, the host computer should fail, the microprocessor will operate from a set of default parameters. The mass flows will be computed by the classical mass flow equation

$$Q = K \sqrt{(\Delta P X P)/T}$$

where the differential pressure (ΔP) is in inches, the pressure (P) is in psia, and the temperature (T) is in degrees Rankine. The constant K has a dependence on orifice size, and the compressibility and specific gravity of the gas and will be updated when changes in the gas composition occur, as determined by mass spec analysis. If the mass spec is down then gas chromatographic analysis will be used.

In addition the pressure transducer located in the gas chromatograph oven will collect and log pressure data for the four test wells. The data density will depend on events occurring both in the product and test well gas streams. But again the maximum rate would be one point per 15 seconds.

2. <u>Temperature Data</u>. As indicated in Figure 2 the temperature signals are routed to a Digitrend Data Logger, processed through microprocessor 1, and then transmitted to the host computer. Data will be collected from each of 40 thermocouples, 10 per test well, and a total of six readings per thermocouple will be acquired, four temperature readings and two diagnostic readings. The relative positions of these thermocouples in the coal seam, the overburden, the underburden, and the two interfaces between the coal and over-and underburden are shown in Figure 3.

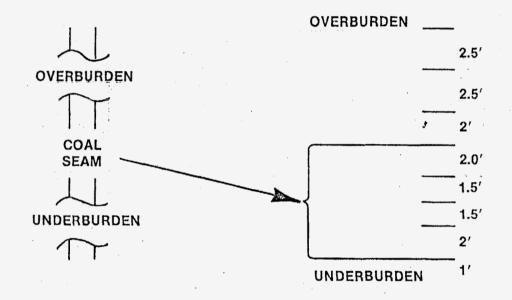


Figure 3 Relative positions of Thermocouples in Coal Seam.

۲ ۲ Data from the thermocouples will be used to locate and map the burn front, and for modeling purposes. Although the normal collection rate will be one data point (channel reading) per 12 minutes, the data collection rate can be event driven by unusual data occurrences and can reach a maximum rate of one data point per 15 seconds Like the surface gas train variables, the actual data density will depend on events and on parameters determined from current data and then passed to microprocessor 1 from the host computer. Temperature readings will be adjusted in the host computer using grout, shale and coal conductivities. A projected maximum number of data points to be collected for the project is given in Table 3 and an overview flow diagram for the collection of temperature information is shown in Figure 4.

Available graphics are listed in the graphics section.

3. <u>Gas Composition Data</u>. The gas composition of the product and monitoring wells gas streams is analyzed by mass spectrometric and gas chromatographic methods using a Perkin-Elmer Model MGA 1200 mass spectrometer system and two Bendix Model 7170 process chromatograph systems; and a chemiluminescent NO/NO_X analyzer dedicated to the product gas stream. Figure 5 is a schematic showing the relationship between the analytical systems and the gas streams.

Under the direction of microprocessor 4 mass spectometer and gas chromatograph analytical systems are time-shared among the gas streams through control valves V₁ through V₅ and V₁₀ which are shown in Figure 1. For greater details on the analytical system including the valving and timing logic, see the section on the description of the Pricetown I gas analysis system.

The integration of microprocessor 4 which controls and collects data from the mass spectometer system, and interacts with the microprocessors that control and collect data from the gas chromatograph system is depicted in Figure 2.

As also indicated in the section on the description of the Pricetown I gas analysis system the real-time control of the gas chromatographs will be directed by microprocessor 4 after analysis of the mass spec data obtained from the different gas streams. The actual switching among gas streams will be determined by unusual data occurrences which will be detected by the computer code residing in microprocessor 4 and with the aid of a parameter passed from the host computer. Should the host computer fail, the microprocessor will operate with a default parameter.

A flow diagram for the collection of mass spec and gas chromatograph data is shown in Figure 6. For the process stream the mass spec data rate will be approximately one measurement per five minutes and the gas chromatograph rate will be approximately one measurement per 30 minutes. With the four test wells the overall mass spec cycle time will be 20 minutes and the overall gas chromatograph cycle will be approximately $2\frac{1}{2}$ hours for normal conditions. However, the actual data density will depend on the number of unusual data occurrences detected.

TABLE 3

PROJECTED DATA DENSITY AND FILES FOR THE DIFFERENT DATA SOURCES

Туре	Source	No. of this Type	No. Rdgs. per Type	Total No. per Data Get	Base Time Block (B.T.B.)	Total No. /B.T.B.	Total No. /Hour	Total No. /Shift	Total No. /Day	Total No. (180 days) /Project	Total No. of Of Files
T/C	Digitrend Data Logger	40	6	240	12 min.	240	1200	9600	28800	10,057,000*	40
GC	GC P Product Well	2	7	14	30 min.	14	28	224	672	120,960	1
GC ₂	MS P Test Wells	2	7X4 Wells	56	2.5 hrs.	56		224	616	110,880	1
16. М.S.	MS P Product Well	1	8	8	2.5 min.	8	192	1536	4608	829,440	1
M.S.	MS P Test Wells	4	8	32	10 min.	32	192	1536	4608	829,440	1
Gas Trai	Diff. n Pressure variable, pressure and tempera- ture trans- ducers on gas train system	20	1	20	12 min.	20	100	800	2400	846,720	* 20

*assumed that for 2% of the time, data would be aquired at the maximum rate of 1-data point per 15sec.

¥ _ _ _

P

, i

1₁₀

-

y

.....

×

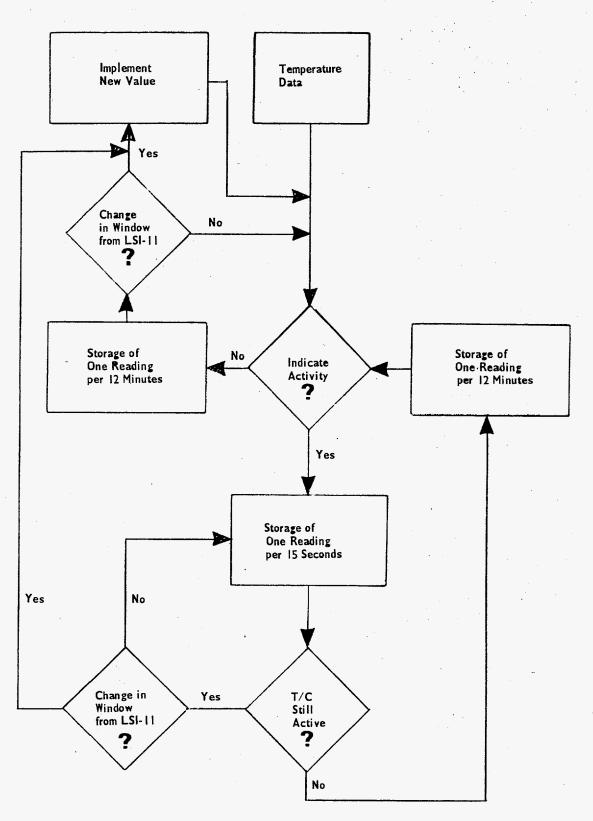
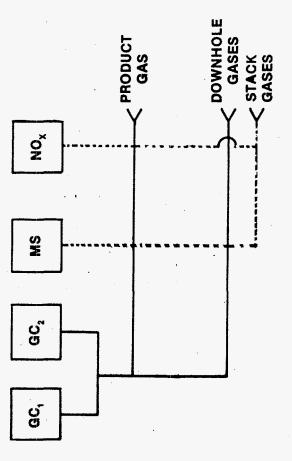


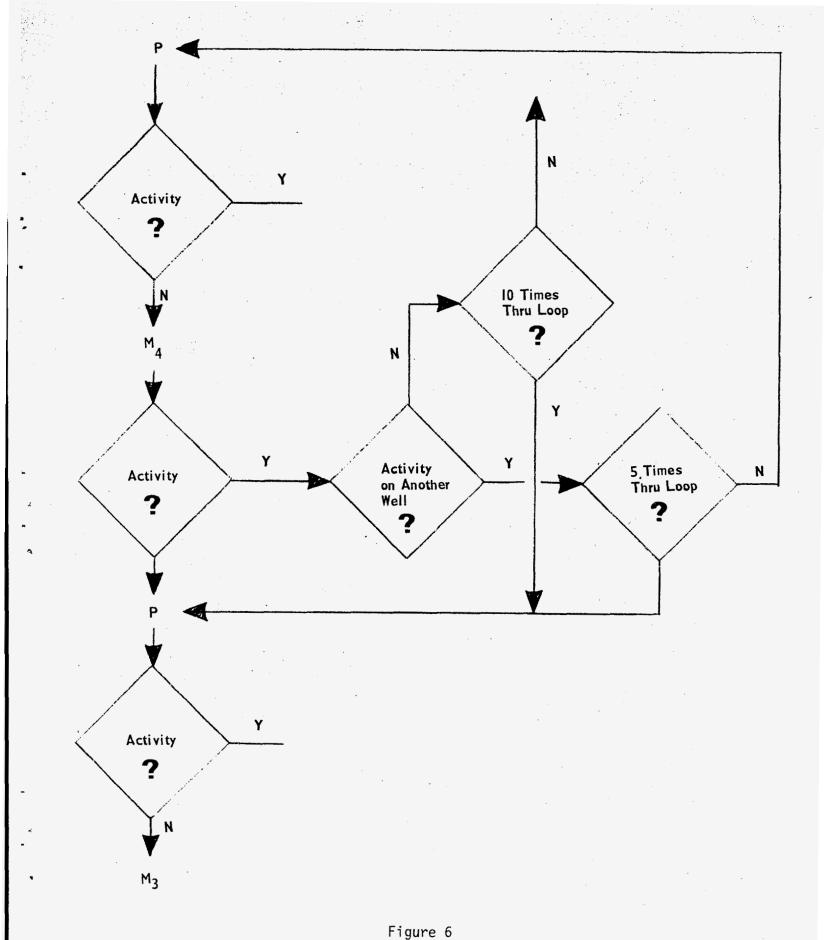
Figure 4 Overview Working Flow Diagram for Collection of Downhole Temperature Data.

17.



Schematic Relationship between the Analytical Systems and the Gas Streams.

Figure 5



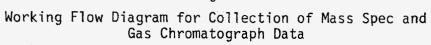


Table 3 lists the projected number of data points. These data will be used for modeling, monitoring, heat content (BTU) computation and as an aid in the development of a process control system.

- 4. <u>Data Acquisition Software (Temperature and Gas Train Variables)</u>. This code records data on a diskette for transmission to the host computer. Keeps an entry for each of the 40 thermocouples and the 20 gas train variables. The code detects and flags unusual data occurrences and transmits that event to the host computer.
- 5. Data Acquisition Software (Mass Spectrometer and Control Code). This code controls the mass spectrometer, detects and flags unusual data occurrences, and sends control signals to the GC satellites. All MS data is recorded on a diskette and sent to the host computer. Data acquisition is initiated by selecting a specific inlet, reading the data, recording the data on a diskette, reading the NO_x data, and recording on the diskette.
- 6. <u>Data Acquisition Software (Gas Chromatograph)</u>. This code records the data on a diskette associated with each microprocessor. In the normal mode data will be collected on the product gas stream and one of the test well gas streams on a shift interval. Upon command of the Mass Spectrometer and Control code, the GC's will acquire data from the selected gas stream. The GC's will return to normal mode upon command from the controlling microprocessor or after a period of time, of approximately 15 minutes, during which no change is recorded.
- 7. <u>Background Software</u>. The background software will include graphics, report generation, file structure and file handling, operator interface (operate system and respond to alarm), executive, and calculation modules. The graphics module will plot temperature data, gas chromatograph and mass spectrometer data, gas train variable, mass balance computations, heat content computations.

All plots on the graphics terminal will be for the most recent 30 data points. For example, if hourly average temperature value are to be displayed, then the last 30 hourly temperature averages would be plotted. Because the acquisition rate can be event driven for temperature readings and the gas train variable the possibility exist that any given set of 30 data point might include a mix of time intervals. The automatic scaling of the axis or axes would reflect this for the viewer. Should a gap(s) occur in a data set, this gap likewise would be reflected in the plot. Up to four concurrent data plots are possible on one graph. Plots available on the graphic terminal are given in Table 4. Any of these display plots can be generated on demand but normally hard copies of these plots are issued on a scheduled basis. The frequency is indicated in Table 4. Report quality plots from the flatbed plotter also will be available and normally will be available on demand. Those plots available are the ones indicated for the graphics terminal.

The report generation module will provide an event report for the shift and a composite one for the day. This module also will generate a listing of the daily averages for the gas train variables, a list of the high and low compositions, pressures and flows. Likewise a heating value report will be generated.

Creation of new files, updates of existing files, deletions of obsolete files, backup of critical files and monitoring of file organization on the disks are functions of the background file structure module. The background operator module initiates entries into the event file, graphics, system messages such as clean tape heads, load paper, etc., and operator requested messages from help files. A list of files is given in Table 5. The background executive module calls the graphics module, the report module, the file structure module, the operator interface module, and the calculation module. It also performs system checks to verify the condition of peripherals and relays messages to the operator on status, information for the event log and comments from previous shifts.

The calculation module computes mean values, generates statistics and in general provides the computations needed for control, graphic and report purposes.

Overall the background tasks are projected to use approximately 95% of the host computer time.

8. Foreground Software. This software handles all prompts and messages between the operator and the foreground tasks. It responds to operator input, controls the hardware diagnostics, queues the data acquisition for the background tasks, communicates with the background executive, initiates the acquisitions of status reports, and detects equipment failure. In addition this software attends to the normal boilerplate activities associated with the system. Approximately 5% of the host computer time will be devoted to this software.

TABLE 4

PLOTS AVAILABLE ON THE GRAPHIC TERMINAL

Туре	Number	Title	Source	No. of Lines/ Points	When	Where	Defaults and Type of Data	н ; с:
1	4	Temp vs Time	Digitrend	4/30	Daily	TEK	4 T.C.'s in coal seam on TE Hourly and daily averages.	
2	1	SO ₂ & H ₂ Ś vs Time	GC1 & GC2	1/30	Daily	TEK	Raw data on TEK	
3	1	CH ₄ /CO vs Time	MS	1/30	Daily	TEK	Hourly average on TEK	:
4	1	CO vs Time	MS	2/30	Daily	TEK	Hourly average on TEK	i i
5	1	BTU & CH ₄ vs Time	GC1	1/30	Daily	TEK	Raw data on TEK	
6	1	CO/CO ₂ vs Time	MS	2/30	Daily	TEK	Hourly average on TEK	
7	1	CH ₄ /H ₂ vs Time	MS	1/30	Daily	TEK	Hourly average on TEK	
8	1	N, C, H & O Mass Balance vs Time	Mass Balance Calculations	2/30	Daily	ТЕК	Hourly average on TEK	
9	1	H ₂ & CO vs Time	GC1	2/30	Shift	TEK	Raw data on TEK	·
10	1	N (injection) & N (product) vs Time	Calculated Values	1/30 [°]	Shift	ТЕК	Hourly average on TEK	•
11	1	H ₂ 0 vs Time	GC1	1/30	Daily	TEK	Raw data on TEK	

22

TABLE 4 (Continued)

• ,

1

PLOTS AVAILABLE ON THE GRAPHIC TERMINAL

) :∓ i

<u>Type</u>	Number	Title	Source	No. of Lines/ Points	When	Where	Defaults and Type of Data
12	1	Back Pressure vs Time	Digitrend	1/30	Daily '	TEK	Hourly average on TEK
13	1	PI1, PI2, PI3 Pressure vs Time	Digitrend	2/30	Daily	ТЕК	Hourly average on TEK
14	1	PII, PI2, PI3, PGH Temperature vs Time	Digitrend	2/30	Daily	ТЕК	Hourly average on TEK
15	1	M1, M2, M3, M4 Pressure vs Time	Digitrend	1/30	Daily	TEK	Hourly average on TEK
16	. 1	Flow Rate (P) & Flow Rate (I) vs Time	Digitrend	1/30	Daily	ТЕК	Hourly average on TEK

ы н а п

TABLE 5

DATA FILES FOR BACKGROUND SOFTWARE

- 1. 40 Files for T/C data
- Utility file that contains depths of T/C's high and low values for TEMPS, GAS COMPS, PRESSURES & flows for last 5 days
- 3. 3 files for product well (GC1, GC2, MS)
- 4. 3 files for injection well (GCl, GC2, MS)
- 5. 12 files for monitoring wells (4 wells ea GC1, GC2, MS)
- 6. 20 files for containing gas train data
- 7. BTU file
- 8. Flow rate file
- 9. Mass balance file
- 10. 2 event files (shift & day)
- 11. System messages
- 12. Operator requested messages

V. CONTRIBUTORS

The following have contributed input for this report:

0. R. Austin

A. F. Ciramella

D. L. Clark

J. F. Combs

R. G. Corley

D. L. Fallert

W. E. Kesling

R. C. Kessler

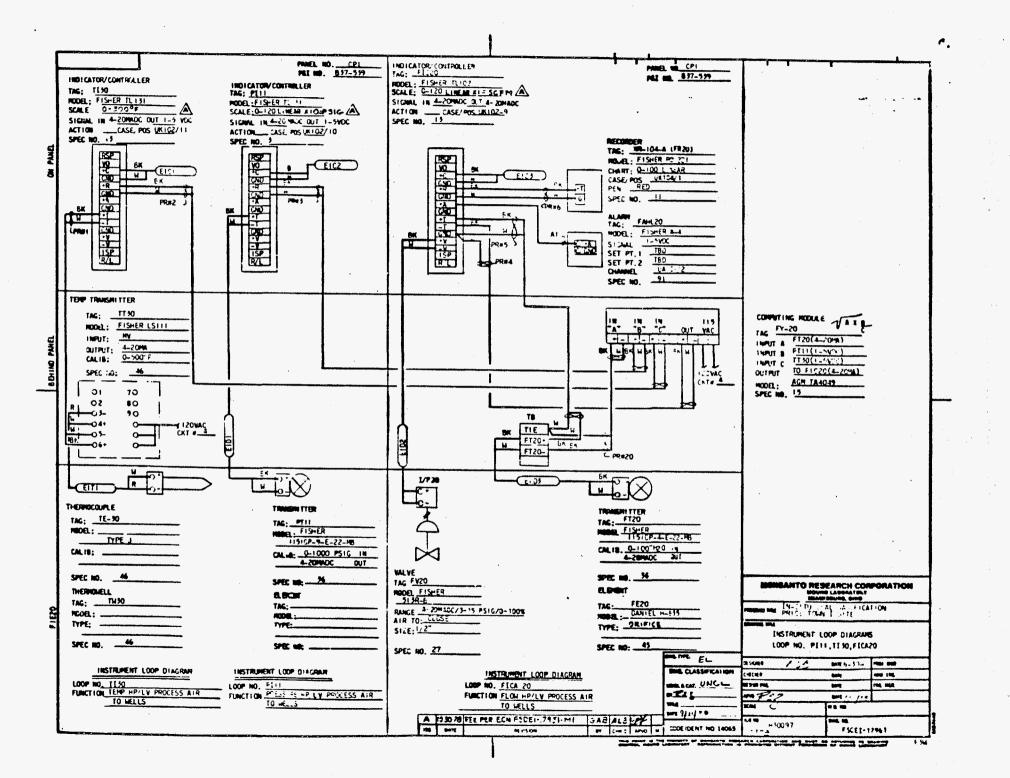
P. W. Seabaugh

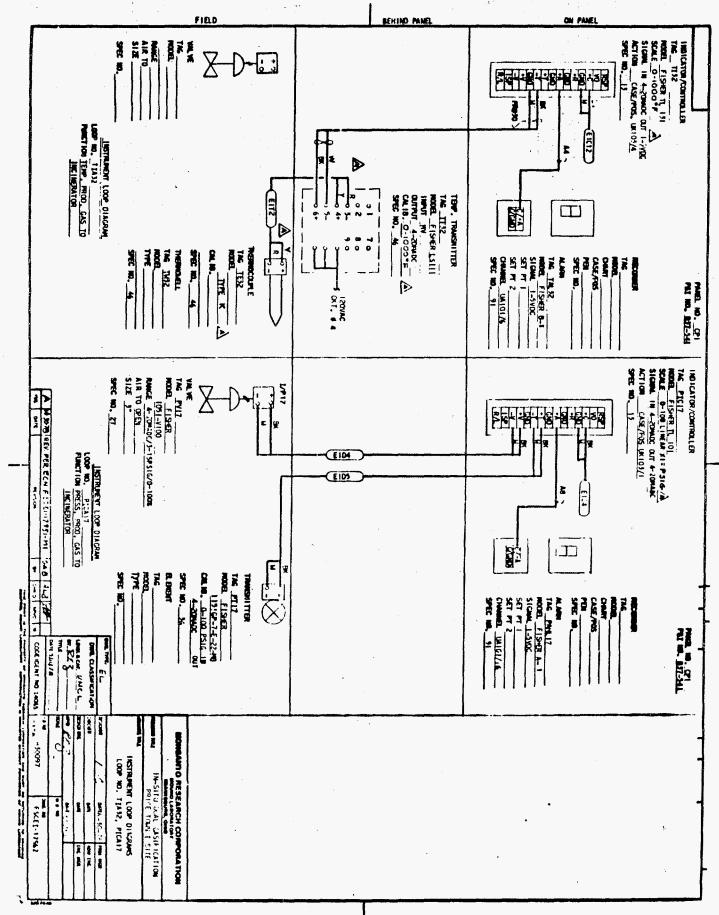
W. K. Walker

R. E. Zielinski

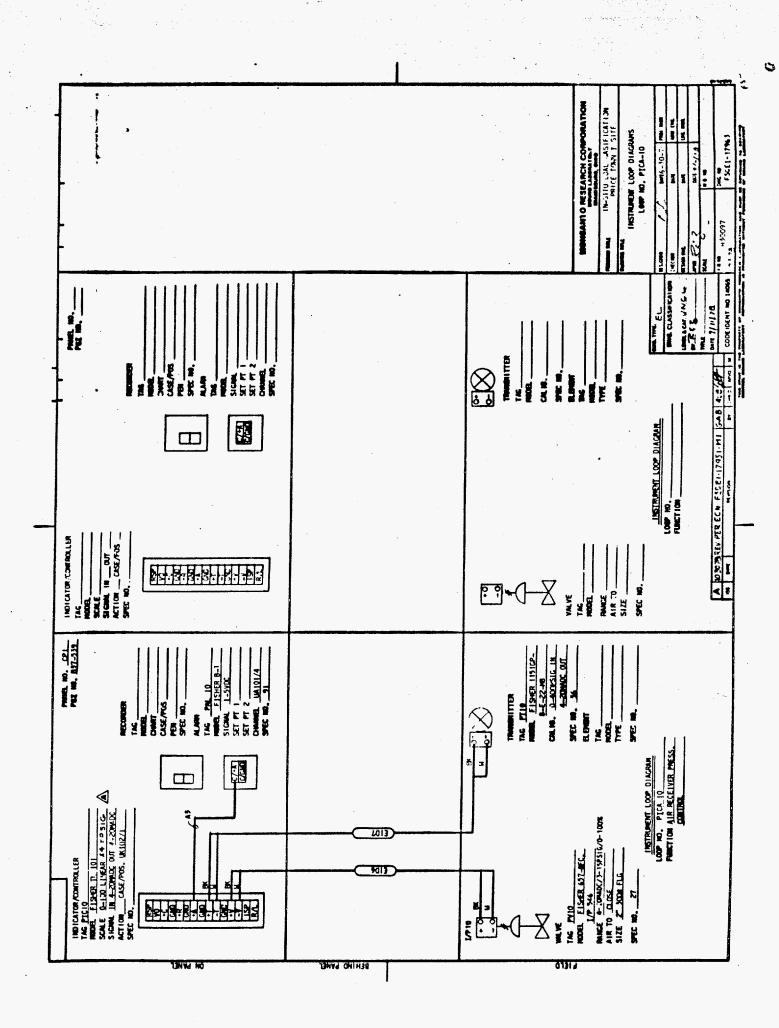
APPENDIX I

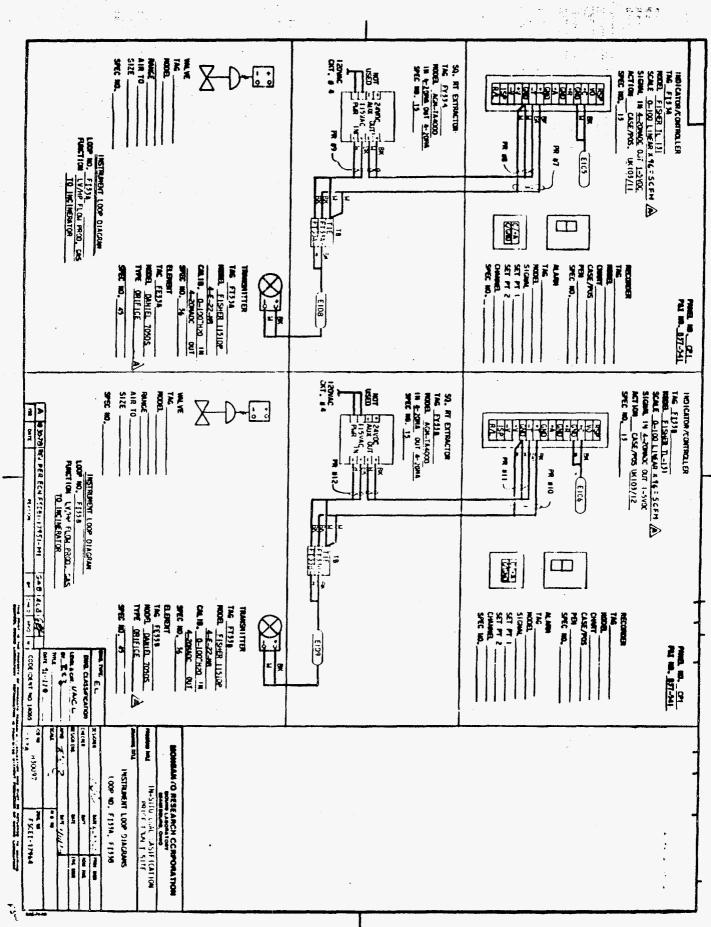
LOOP DIAGRAMS





法法书

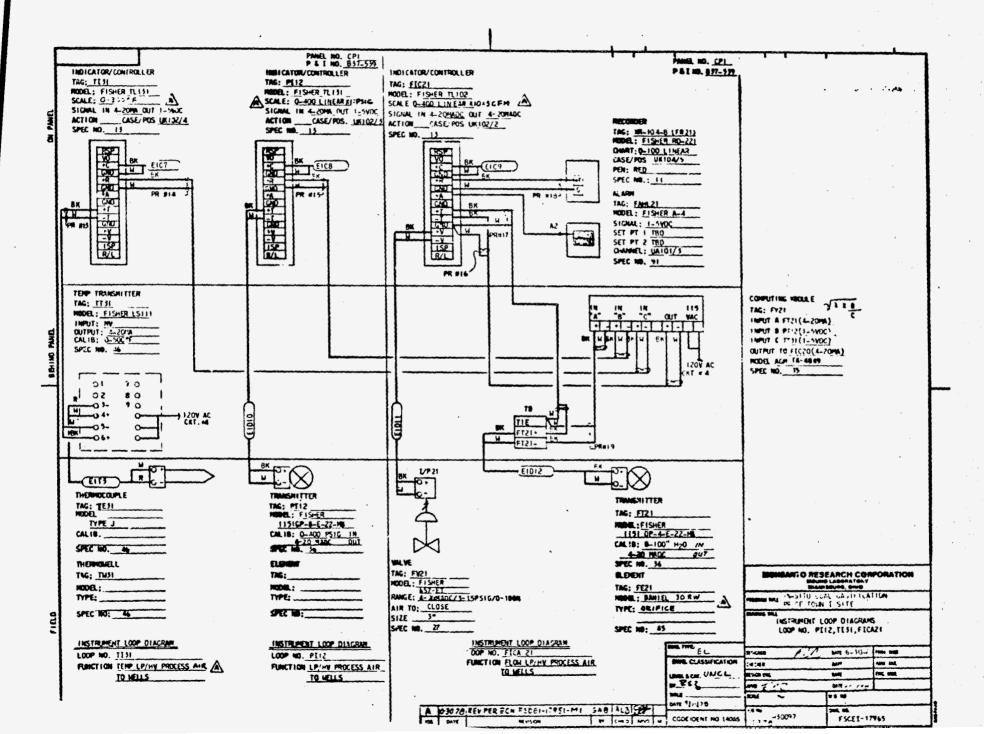




-

-..

-- .

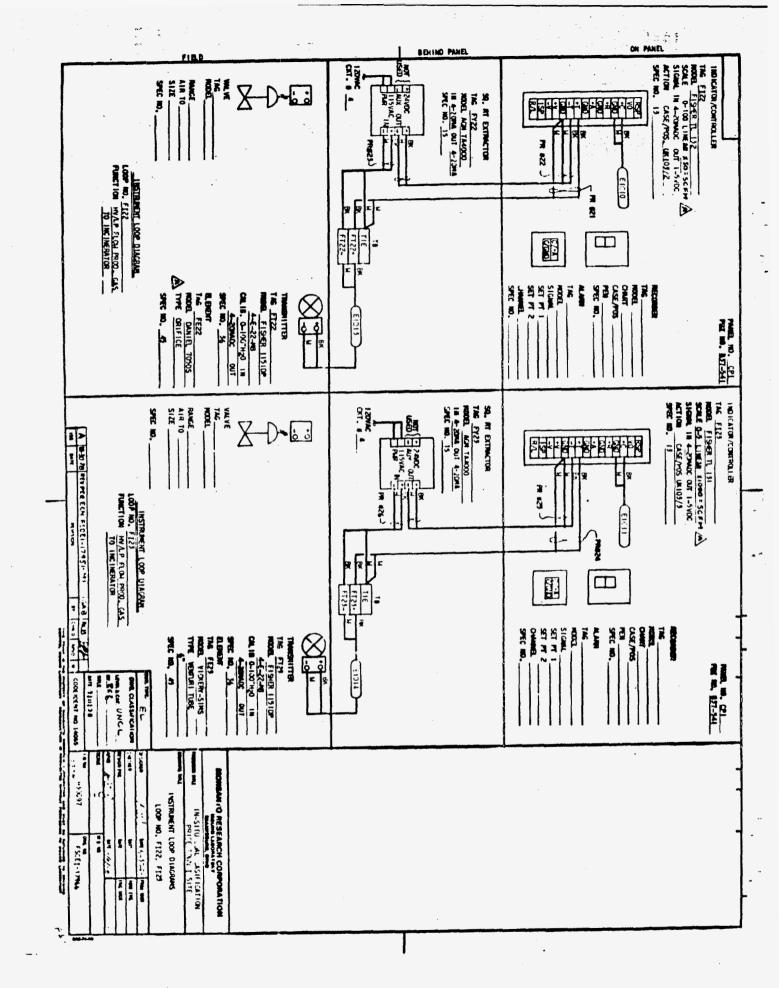


• 5

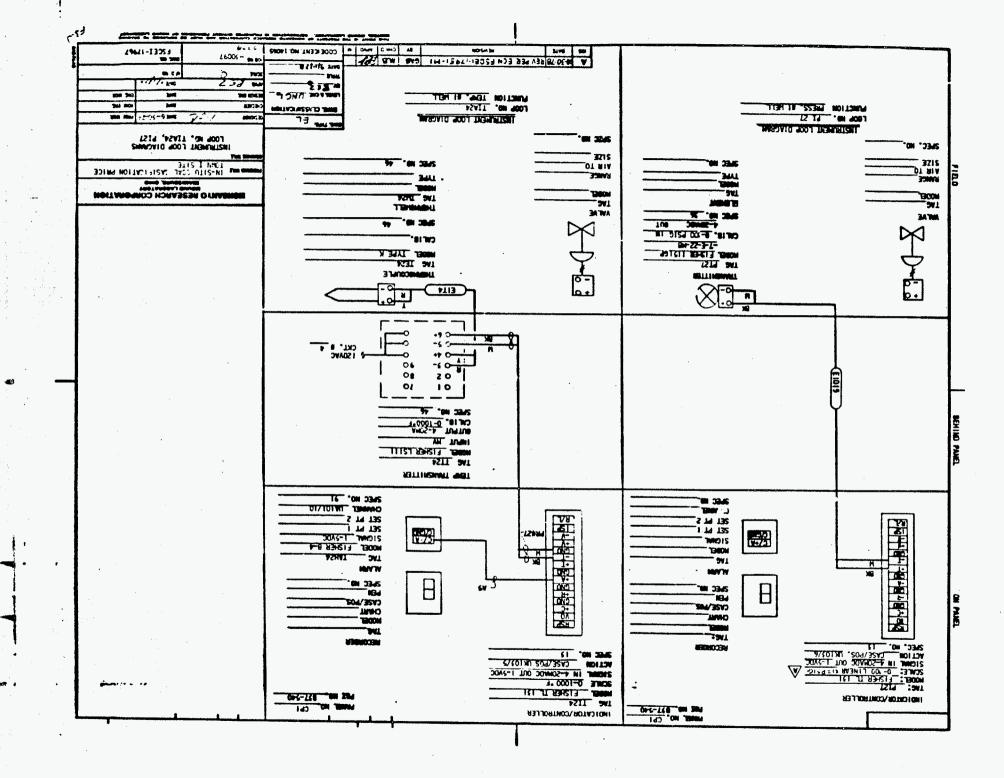
. .

)

والاردامة موروميهم وكالمحارب كالواجا المتراري والمراجع

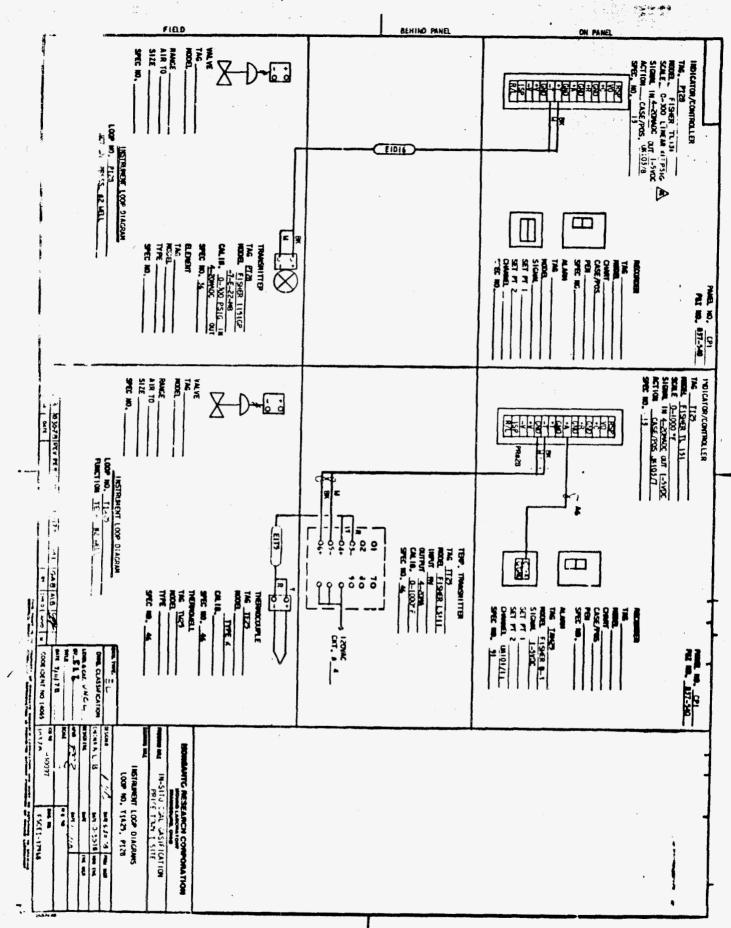


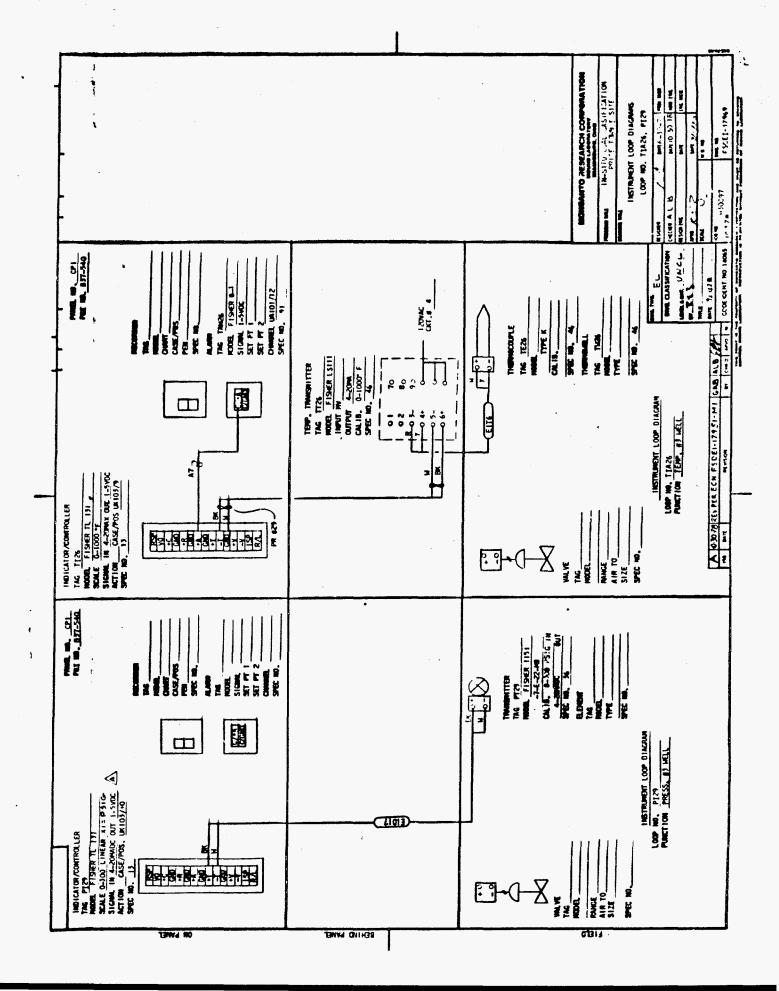
÷.



¥ 1

1





APPENDIX 2

INSTRUMENT SPECIFICATIONS

द १-. * • • •

e

ionsanto		INSTRUME	NT INDEX		MEV	15ED 0A 2 7-1		AT CHECKED APPROVED COMPANY	PLANT 0 10 375	OWI NO. FSB 17919
	PRICE TOWN		TECT					CEA	DEPT OR AREA	SHEET M
LOCATION	_ PROJECT _ TALE _ TO VILL	P.O. NUMBER	T	nt A		1 UNICTO		82.52		1 016
MANUFACTURER	MODEL	P.O. NOMBER	INSTR CALIB. OR VALVE ACTION	LOCATION FIELD, PANEL, LINE NO. OR EQUIP. NO.	INSTALL. DETAIL REQUIRED	INSTR LOOP DIAG	SPEC NO.		1	FO INSTRUMENT
			·				·	350 PSIG AIR HEADER		
FISHER	IISIGP	25466	0-400PSIG			17963	36	GAUGE PRESS XMITTER		PT-10
FISHER	TLIOL	2544B	D-IDCLIN				13	PRESS INDIC CONTROLL	ER	PTC-IC
FISHER	546	25447		MTD ON PY-10			27	CUR-PNEU XDUCER	· .	I/P-10
EISHER	6 57- BFC	25447	FAILOPEN	2"-LP-1"I			27	2"C.S. BODY PRESS CONTROL	VALVE	PV-10
FISHER	B-1			CPI	<u> </u>	<u> </u>	91	LOW PRESS ALARM		PAL-10
ASHCROFT	1320 B	25687	0-500 PS14					350 PSIG HEADER PRESSUL	RE	PI-10
	······································							1000 PSIG AIR FLOW SYSTEM		
FISHER	HEIGP	25466		1+"HP-112"I	ļ	17961		GAUGE PRESS XMITTER		PT-11
FISHER	TLI31	25448	D-120LIN			+	13	GAUGE PRESS TNDICAT	OR	PI-11
· · · · · · · · · · · · · · · · · · ·								350 PSIG AIR FLOW SYSTE	M	
FISHER	1151GP	25466	0-400 Paig	4"LP-11/2"I		17965	3%	GAUGE PRESS XMITTER		SI-T9
FISHE R	TLIBI	2544?	0-100 LIN	2-P1		+	12	GAUGE PRESS INDICATO	B	PI-12
ASHCROFT	50E I	25687	50-550 %	<u> /" IA</u>	<u> </u>	 .	51	AIR TO INSTR AIR DRYER		<u>TI-13</u>
	· · · · · · · · · · · · · · · · · · ·									
ASHCROFT	1320E	25 530	2-140FEIS	1" IA			49	AIR TO INSTR AIR DRYER		PI-IH
FARRIS	26EA12	25525	360 PS:G	4"LP-1"I	-		52	AIR RECEIVER VENT		PSV-1
FARRIS	1000	25528	100 PSIG	1" I4	1	1	52	INSTR AIR LINE VENT	 -	PSV-2

1 9 2 1

·

0 0 F X

DACH CE

÷ • tj

lonsanto		INSTRUMEN	IT INDEX		REV	ised DA 0 4- 10-	12-78 -18 R	ВУ <u>СНЕСЕВО</u> АРРКОVEU СОМРАНУ Р.LANT 	DWG FSH /79 SHEET
LOCATION	MONET PRICETOWN-	FIELD T	EST .	MEA*				8252	26
MANUFACTURER	MODEL	P.O. NUMBER	INSTR CALIB. OR VALVE ACTION	LOCATION FIELD, PANEL, LINE NO. OR EQUIP. NO.	INSTALL, DETAIL REQUIRED	INSTA LOOP DIAG	SPEC NO.	SERVICE & REMARKS	
FISHER	620	25447	75 PEIG	I"LP			42	PACK-UP INSTRAIR PRESS REGULATOR	PCV-
	······································								
FISHER	620	25608	75 PSIG	1" IA			42	INSTR AIR HEADER PRESS REGULATOR	PCV-
								PRODUCT GAS BACK PRESS CONTROL	
FISHER	1151GP	25446		6"-PG-3"I	ļ	17962		SAUGE PRESS XMITTER	PT-1
FISHER	TLIOI	25449	0-100-1N		 	┟──┼──	13	PRESSINDIC CONTROLLER	PIC
FISHER	546	25447		MTL ON EV-17	 	├	27	CUR-ENEU XDUCER	IIP-
FISHER	1051-1100	125447	FAILCLOSE	6"PG-3"I		┝── <u></u> ┟───	27	4-31655 POLY PRESS CONTROL VALVE	PV-
FISHER	<u>A-1</u>			CPI	<u> </u>	¥	31	HI-LO FRESS ALARM	PAH
STATIC-0-RING	6NN-K5	25469	75 PS14	1"IA	 		47	GAUGE PRESS SWITCH	PS-1
FISHER	J-1			CPI		17960		LOW PRESS ALARM	PAL
	······								
	······································							1000 PSIS AIR FLOW SYSTEM	
DANIEL	H-835 & F-50	25529		1"-HP-11/2" I	I	17761		I'C.S. HONED METER TUBE LORIFICE PLATE	FE - 2
FISHER	II512P	25466	p-10- Viz	1"-HP-11/2"I	L	ł	36	LIFE PRESS XMITTER	ET- 2
AGM ELECTRONICS	PHCH-AT	25470	Q=Kih.P/T	2F;		<u>↓</u>	15	FLOW COMPUTER MOLULE	EY- 2
FISHER	T1102	25448	2-122 11	and the second		+ - +	12	PROCESS AIR FLOW CONTROLLER	FIC-
FICHER	546	25447		1472 :N F/-20	+	├ - ├	27	CUR-PNEU XDUCER	<u></u>
EISHER FISHER	5/3R-B A-1	25447	FAIL OPEN	1"-103-AIR	+	<u> </u>	91	Y2" C. T. BOLY FLOW CONTROL VALVE	EV-
FIDHE IS	A=1			CPI	J		11	HI-LO FLOW ALARM	FAH

88 101 (11/74)

in and a second s

.

a a

з **н**

۴^Δ

12 K

. .

'n

Monsanto		INSTRUME	NT INDEX			0 4	DATE	be	CHECKED APPROVEU	COMPANY	PLANT	<u> </u>	DWG NO.
		• •				1 18	11-78 12-78	- 04		CEA	10810378		F3017999
LOCATION	PROJECT PRICE TOWN	- FIELD TE	ST	AMEA						8252	DEPT OR AR	EA .	3 as la
MANUFACTURER	MODEL	P.O. NUMBER	INSTR CALIB. OR	LOCATION FIELD, PANEL, LINE NO. OR EQUIP. NO.	INSTALL. DETAIL REQUIRED	LOOP DIA	G SPEC	C NO.	SERVICE	A REMARKS	1	EFD	3 of 6
DANIEL	30 RW	25529							350 PEIG AIR F	LOW SYSTE	E M		<u>†</u>
FISHER		and the second s		4"-LP-11/2"I 4"-LP-11/2'I		1796			4"C.C. ORIFICE FI	ANGETORIE	CE PLATE		FE-21
AGM ELECTRONICS	TA-4049	25470	Q=KVh·P/T			+ + -	36		DIFE PRESS X	MITTER (ELOW)		FT-21
FISHER	T_102	254:3	D-100LIN		<u> </u>	╂──╂──	15		FLOW COMPUTE	R MODULI	ε	L	FY-21
FISHER	546	254+7		MTE ON FY-21	l	 -	112		PP 1505 AIR F	- CH CONTR	OLLER		FIC-21
FISHER	657-ET		1-20MA/3-/5	4"-LP-11/2" I		┼──┠─	27		C.F. FNEU XE	UCER			I/P-21
FISHER	A-1		FAIL SPEN	CPI		┼-┼-	\$7		2"C.S. EDLY FL	ON CONTRO	LVALVE		EY-21
			<u> </u>				91		HI-LO FLOUJ AL	ARM			FAHL-2
									· · · · · · · · · · · · · · · · · · ·				
									HV/LP FLOW PI	RODUCT G	AS		<u> </u>
DANIEL	705-DS	25529		6"-P6-3"I		1796	6 -15		6" ORIFICE FLAN				FE- 22
FISHER	1151 DP	2546%	0-100"WC	6"-PG-3"I			26		D.FF. PHECS	MITTER			FT-22
AGM ELECTRONICS	TA 4000	25470	SO. KT. EAT.	CPI			15		FLOW COMPUTE	8 MOTUN	- CUNI		FY-22
EISHEP	T_132	25448		CPI		1	12		PROLUCT GAT	FLOW IN	LICATOR		FI-22
												-	
NICKEDI CALL			1				+		HV/LP FLOW F	PODUCT G	AS		
<u>VICKERV-SIMS</u> FISHER		25468		6"-PG-3"I		17966	45		6- VENTURI F				FE-23
AGM ELECTRONICS	1151DP	25466		6-PG-3"I			210		DIFF. PRESS Y				FT-23
	TA 4000	15470	LO. RT. EXT.	Contraction of the local division of the loc			15		FLOW COMPUTE	R MOTOL	F		FY-23
FICHER	TL132	25449		CPI		+	13		PRODUCT GAS P	LON INDK	ATOR		F1-23
							-						
FISHER									PRODUCT GAS	UELL#1			
ASHER				WELL PI-1		17.96	44		TYPE & DUAL TO		-MOTW		TE-24
FISHER	LSIN	2544B	0-1000°F	CPI			46		TO/T TEMP X	MITTER			TT-24
FISHER	TLI31	25446	0-1000°F	CPI			13		FROLUCT GAS TE		ATOR		TI-24
LIDHEN	<u>B-1</u>			CPI		+	71		LO TEMP ALAR				TAL-24
							+		· · · · · · · · · · · · · · · · · · ·				
III 101 (11/74)							+						

, 4 L 🇯

* , `

۲,

.

٠

Mensanto		INSTRUMEN	H INDEX		MEN	1580 04 0 4-1 1 10-4		CHECKED APPROVED	COMPANY	FIANT F3B 10378		DWG NO. FJA 17999
LOCATION	PRICETOWN -	-FIELD TE	ST	MA					8252		1	4.61
MANUFACTURER	MODEL	P.O. NUMBER	T T	LOCATION FIELD, PANEL, LINE NO. OR EQUIP. NO.	INSTALL. DETAIL REQUIRED	LOOP DIAG		SERVICE A		·	EFD	INSTRUMENT NUMBER
			[· · ·	Î	1		PRODUCT GAS	WELL# ;	2		T T
FISHER				WELL PI-2	T	17968	46	TYPE K DUAL TC.				TE-25
FISHER	LSIII	25448	G-1000=F	CPI	1		46	TC/I TEMP XI		an Banda A Bangatani Tana		TT-25
FISHER	TL131		0-1000°F		T		12	PRODUCT GAS T		CATOR		TI-25
FISHER	<u>B-1</u>			CPI		•	91	LO-TEMP ALA				TAL-25
	*****											<u> </u>
			.f		·{		1	PRODUCT GAS				
	······································			WELL PI-3		17969	46	TYPE & DUAL TC-		MOTW		05-3T
FISHER	LSIII	25448	0-1000°F	CPI	·	↓	46	TC/I TEMP X				TT-26
FISHER	TLIZI	25446	0-1000°F		_	┨╌┨───	1 <u>3</u> 91	PRODUCT GAS .	TEMPIN	DICATOR	 	TI-26
FISHER	<u>B-1</u>		1	CPI	<u> </u>	↓ ↓ ↓	<i>71</i>	LO-TEMP ALA				TAL-26
						+	<u> </u>	PRODUCT GAS	1)=) +)			<u> </u>
FISHER	1151GP	25 AAB	0-3001-15	WELL PI-1	-	17967	36	GAUGE PRESS				PT-27
FISHER	TL 131		0-300 LIN				13	PRODUCT GAS 1				PI-27
					+				·····	·····		
							<u> </u>	PRUDUCT GAS			<u> </u>	
FISHER	lisige	25448		WELL PI-2		17968		GAUGE PRESS				PT-28
FISHER	<u>TL 131</u>	25446	0-300 LIN			· · · · ·	13	PRODUCT SAS	PRESS IN	DICATOR		PI-28
						1					 	
		2=400				17969	7/	PRODUCT GA				07.20
FISHER	1151GP TL 131	25440	12-300 FIL	WELL PI-Z		1.161	13	GAUGE PRESS				PT-29 PI-29
			10-300 LIF				1		F/6-2 1			F
III 191 (11/74)						_L	1				J	

2 S

e *

a *

· • •

16 101 111/74

Aonsanto		INSTRUMEN	IT INDEX		0 9. 0 9.	DATE 12-74 -4-76	CHECKED APPROVEIS	COMPANY	FSD 10 3 7 6	DWG NO. F-SB 17999 SHEET MEN
OCATION	MOJECT PRICE TOWN -	FIELDTES	57°	REA				8252	DELL OU ONE	5.61
MANUFACTURER	MODEL	P.O. NUMBER	INSTR CALIB. OR VALVE ACTION	LOCATION FIELD, PANEL, LINE NO, OR EQUIP, NO.	INSTALL. INSTR DETAIL REQUIRED FSCE		SERVICE &	REMARKS		EFD INSTRUMENT
FISHER	······	25448		1"-HP-1"2"I	1796	146	TYPE J TE WITH	34 NPT 7165	STW	TE- 30
FISHER	LSIN	25449	0-300°F	CPI		46	TC/I TEMP. X			TT-30
FISHER	TL 131	25446	0-306°F	CPI	•	13	HP/LV AIR TEM		TOR	05-IT
FISHER		25448		4"-LP-11/2"I	1701	5 46	TYPE I TO WITH	3/11:07 216		TE-31
FISHER	LSIN	25448	0-300°F	CPI		16	TI/I TEMP. X		23 I W	TT-31
FISHER	TL131	25446	0-300 F	CPI		12	LP/HY AIR TE		ICATOR	
FISHER				6"-PG-3"I	1796	2 46	TYPE K DUAL TC -	3/4" NPT C	R-MO TW	TE-32
FISHER	LSIII	25448	0-1000°F	CPI		46	TC/I TEMP XM		<u></u>	TT-32
FISHER	TL 131	25446	0-1000°F	CPI		13	PRODUCT GAS -	TEMP IN	DICATOR	TI-32
FISHER	<u>B-1</u>			CPI	•	91	LO-TEMP GAS	TO INCINE	RATOR	TAL-3
DANIEL	705DS	25529		11/2"-PG-3"I	179	4 45	LV/HP FLOW PR			FE-33A
FISHER	1151 DP	25466	D-100"WC	11/2"-PG-3"I	<u> </u>	36	DIFF. PRESS XMI		<u> </u>	FT-33/
AGM ELECTRINICS	TA4000	25470	SORTEXT			15	FLOW COMPUTER M	NODULE (SART)	FY-33
FISHER	TH131	25448	0-100 LIN		•	13	PRUDUCT GAS FI			FI-33/
DANIEL	705D5	25529		1 "2"- P6-3"I	1791	4 45	1 12" - C.S HONED	CETTION	<u>.</u>	FL- 32B
FISHER	IISIDP	25466	0-100"WE	1Y2"- PG-3"I		36	DIFF. PRESS XMI			FT-33E
AGM ELECTRINICS	TA 4000	25470	SQ. KT. EXT			15	FLOW COMPUTER	MOLULE	(SART)	FY-33E
FISHER	TL131	25607	O-ICOLIN	<u>2P1</u>		13	PROLUCT GAS FL			FT-331
FISHER (ALLOY ENG	<u> </u>			6"-P1-3"I		51	3/4" NPT CR-MO	TW		TW-35
ASHCROFT	6COB	251.97	2m-1000°F	- 6"-PG-3"I		51	PRODUCT GAS TO	أستشك فاستعد فستشت فاستند ومستع ومسرو الشوعا	ATOP	T1-35

, **4** , **1**

BE 101 (11/74)

<u>, т з т</u>

leasanto		INSTRUMEN	H INDER		REV	0 9. U	0416 -12-75 -6-72	BC BC	CHECKED	APPROVED	COMPANY	FSO 10 376		DING NO. 568 17 991 SHEET MEN
OCATION	MONET PRICE TOWN-F	TELL TE	<u> </u>	Mi A							8252			6.61
MANUFACTURER	MODEL	P.O. NUMBER	INSTR CALIB. OR VALVE ACTION	LOCATION FIELD, PANEL, LINE NO. OR EQUIP. NO.	INSTALL. DETAIL REQUIRED	INSTR LOCP DIA		NO.		SERVICE	A REMARKS		£FD	INSTRUMENT
FISHER	AL-401	25448		CPI		17960		_	ANNUNCL	ATOR	16 PTS			101-AU
FISHER	MC-702			CPI		17951			12 PACK C	LASE U	NIVERAL I	MTD.		UK-102
FISHER	TL-113			CPI			13		TRANSFE	R CER	NCE STAT	FION		ZK-102
FISHER	MC-702	 		CPI			08		12 PACK	CASEU	NIVERAL	MTD.		UK-103
FISHER	MC-702	 		CPI			08		12 PACK C	LACE UN	IVERAL	MTD		UK-124
FISHER	RD-221			CPI			11		THREE F	EN RE	CORDER		·	XR-1041
FISHER	RE-221	<u>↓</u>		CPL	<u> </u>		11.		THREE I	PEN RE	CORLER	·····	 	X R-1043
FISHER	768	<u> </u>		CFI	 	1-1-	20		PRIMARY	POWE	R EUFPL	ΥΥ.		EU-110
FISHER	769	+		CPI			20		PACK-UP	PO PO ME	R SUPPI	Y		E0-111
ACOPIAN	A24 MT210	2 5 5 3 7		CPI		¥.	20		TRENDI	recor	POWER :	UPPLY		E')-104
GISMO	CP-1	25533							CONTROL DWGS FS		CP-1	.55		CP-1
MSA	704			CONTROL RM							MALYSER	ł		AI-I
Fisher	B-1		1	CONTROL RM		17971					DL BLDG	ER		AY-1 AAH-1
MSA	704			GAS MEAS BLDG		1.00					NALYSER			AI-2
FISHER	8-1			GAS MENS BLDG		1797					UTO SAMPI			AY-2 AAH-2

i s t

•

i e 'ne

88 101 (11/74)

<".

عد ک اور 2

CONTROL PANEL MOUNTED INSTRUMENTS

- (IW) IS 08 <u>INSTRUMENT CASE</u> For accomodating one or more control panel instruments.
 - IS 10 <u>ANNUNCIATOR</u> Single or multiple station alarm device with display for each station. Plug-in alarm cards are IS 91.
 - IS 11 <u>RECORDER</u> or multiple recorder with driven chart and one or more pens.
 - IS 12 <u>RECORDER/CONTROL STATION</u> Control station with measurement pen recorder.
 - IS 13 INDICATOR/CONTROL STATION Control station with measurement indicator. Includes service transfer station, indicators.
 - IS 14 <u>COMPUTER SET STATION</u> Control panel interface for computer supervisory control and DDC.
 - IS 15 <u>FUNCTION COMPUTING STATION</u> Station which performs an analog computation. Includes square root extractors, multiplier/ divider, and high-low signal selector.
 - IS 18 MULTIPOINT TEMPERATURE INDICATOR/RECORDER Multiple point switched input temperature indicator or recorder.
 - IS 20 <u>POWER SUPPLY</u> Power supplies for energizing control panel instruments from AC line.
 - IS 24 <u>TRANSDUCER/RELAY</u> Signal transducer, converter and alarm device such as transmations - <u>NOT</u> I/P's installed on control valves

FIELD MOUNTED INSTRUMENTS

- IS 26 <u>PRESSURE REGULATING VALVE</u> Self-contained pressure reducing or back pressure regulator.
- IS 27 CONTROL VALVE All types except butterfly valves.
- IS 28 BUTTERFLY VALVE All types.
- IS 29 SOLENOID VALVE All types.
- IS 30 <u>CONTROL VALVE</u> All types. Superseded by IS 27 and 28.

- IS 31 ON-OFF VALVE All types-w/accessories.
- IS 32 MAG FLOW METER Includes primary and converter.
- IS 33 TURBINE METER Includes primary and converter.
- IS 34 <u>LEVEL DISPLACER</u> Pneumatic or electronic displacer level transmitters and controllers.
- IS 35 <u>LEVEL PROBE</u> Capacitance probe, ultrasonic nuclear level gage and all others for liquids and solids - <u>Not</u> pressure and displacer types.
- IS 36 PRESSURE ACTUATED TRANSMITTER Pressure transmitters for gage, absolute, flow d/p, level measurement. Includes flange mounted and integral orifice types.
- IS 37 <u>FLOW PROBE</u> Flow primaries and transmitters other than orifice meter types - includes annubar, pitot tube, Taylor pitot-venturi, flow nozzles and target meter. - <u>Not</u> rotameter and turbine meter.
- IS 38 LOAD CELL WEIGHT SYSTEM Hydraulic or electrical types and secondaries.
- IS 39 FIELD MOUNTED CONTROLLER General purpose pneumatic controller with case for field mounting.
- IS 40 <u>PHELEMENT</u> Primary element for solution potential analyzers (pH, ORP & Selective Ion).
- IS 41 PH TRANSMITTER Secondaries for pH, ORP & Selective Ion.
- IS 43 FILLED SYSTEM TEMPERATURE INSTRUMENT All classes, pneumatic and electronic, transmitters or controllers, indicating and non-indicating.
- IS 44 ROTAMETER All types.
- IS 45 ORIFICE METERING ELEMENTS Meter runs, orifice plates and flanges.
- IS 46 <u>TEMPERATURE ELEMENT/TRANSMITTER</u> Thermocouples, resistance bulbs and/or transmitters.
- IS 47 <u>PROCESS ACTUATED SWITCH</u> Switches actuated <u>directly</u> by a flow, pressure, level or temperature measurement when a set point is reached.

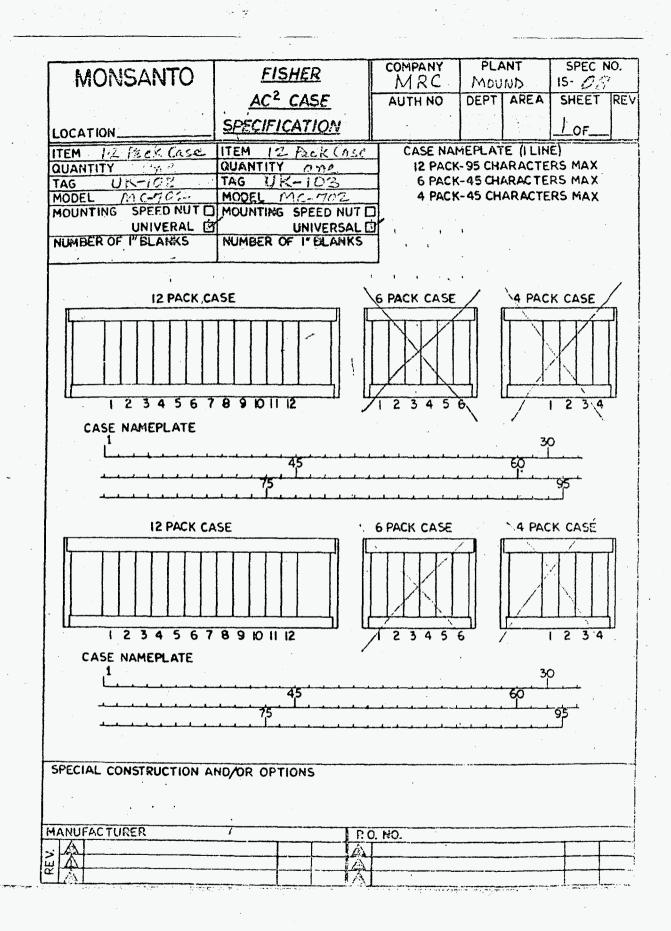
IS 49 - PRESSURE GAGE OR MANOMETER - All types, including receiver gages. For Commodity gages, use IS 67.

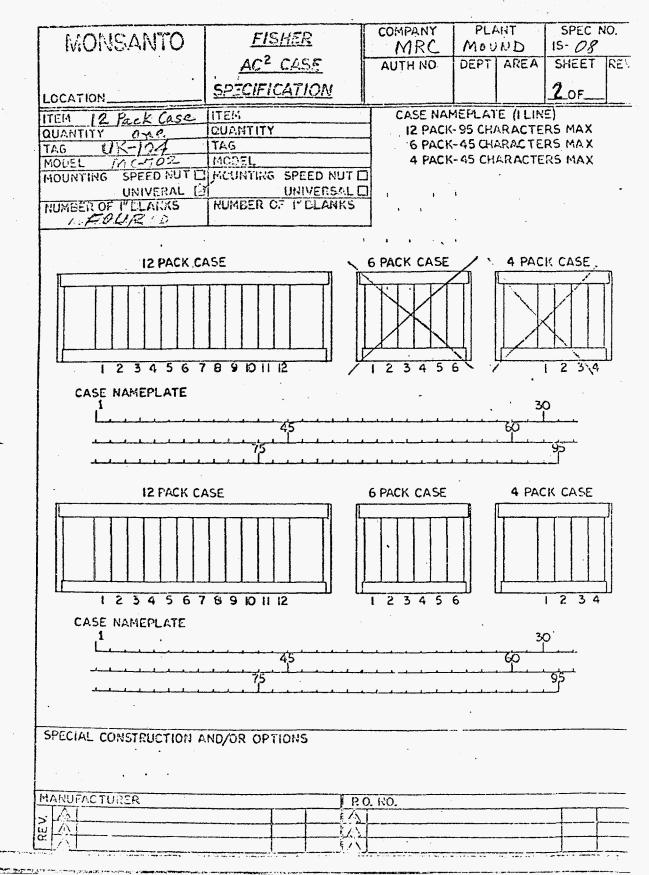
- IS 50 LEVEL GAGE Transparent, reflex and magnetic types.
- IS 51 TEMPERATURE INDICATOR All types of thermometers.
- IS 52 RELIEF VALVE All types.
- IS 53 RUPTURE DISC All types.
- IS 54 CONSERVATION VENT All types.
- IS 55 <u>POSITIVE DISPLACEMENT METER</u> Gear, piston and compound types.

MISCELLANEOUS INSTRUMENTS

- IS 56 PNEUMATIC SELECTOR SWITCH All types.
- IS 57 <u>PROGRAMMER</u> Pulse actuated stepping drum (Tenor) programmers - Not timer operated types.
- IS 58 TIMER PROGRAMMER Motor driven cam operated switch type.
- IS 59 <u>TIMER</u> Electronic or electromechanical delay types, indicating or non-indicating.
- IS 60 <u>COUNTER</u> Electromechanical or electronic types, indicating or non-indicating.
- IS 67 Reserved category for handling of commodity instrument itemsnever printed.
- IS 91 <u>ALARM CARD</u> Plug in circuit assemblies for alarm annunciators (IS 10).

IS 96, 97, 98, and 99 - <u>BLANK IS FORM</u> - To be used where existing IS types are not applicable.





		nsanto	0	ANNUNCIATOR SPECIFICATIONS	AUTH NO.	• • •	PLANT DEPT OR AREA	SPEC NO	RE
-	rument No.		UA-	101					
A	NNUNCIA	TOR CA	ISE ENGR	LAVING					
					· · · ·			·	
A	NNUNC	IATOR	MODEL	Nº	AL-		<u></u>		
N	MBER	OF F	DINTS.	·	IG ISA-			<u> </u>	
A	LARM	JEQUI	ENCE	OPTION	YES				
5	WER	REQUIR	EMENT		1171		12		
R	E-AY_(ONTACT	ARRANGE	MENT AND RATING				· · · · · · · · · · · · · · · · · · ·	
5	VIVERSA	L Mour	STING C	LAMP KIT	YES	······································	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
B	T MO	UNTING	KIT						
2	TICION	PANEL	<u> </u>	· · · · · · · · · · · · · · · · · · ·			·		
15	PE MN	L EXTE	NDER CAR	D					
	·	(Тис	•	5 9 13	10 II I 14 15 I	4	NEELINE N	- - 	····.
	·	MODULE	NAMEPLATE COLOR	NAME PLATE ENCI	10 II I 14 15 I	82			
N= I	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P		naz. LINE #4	
N= 1 2	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
N= 1 2 3	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1 2 3 4	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1 2 3 4 5 3	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1234547	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1 2 3 4 5 2 7 00	INPUT	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1 2 3 4 5 2 7 00 or	INPUT SIGNAL	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
N - 2 3 4 5 2 7 00 0 2 -	INPUT SIGNAL	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
1 2 3 4 5 6 7 00 0 0 1 1 2	INPUT SIGNAL	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
2 - 2 3 4 5 3 7 00 0 2 - 2 3 4	INPUT SIGNAL	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
N 1 2 3 4 5 4 7 00 9 10 11 12 13 4 15	INPUT SIGNAL	MODULE		NAME PLATE ENCI	10 11 1 14 15 1 241146 (14 LTR	8 2 16 5 É 5 P			
× 1 2 3 4 5 3 7 00 0 10 11 2 3 4 5 6				q 13 NAME PLATE ENCH LINE #1	10 11 1 14 15 1 24VING (4LTR LINE #2.	8 2 16 5 É 5 P			
N - 2 3 4 5 9 7 00 9 10 11 2 3 4 5 10	INPUT SIGNAL			q 13 NAME PLATE ENCH LINE #1	10 11 1 14 15 1 24VING (4LTR LINE #2.	8 2 16 5 É 5 P			
IRCHASING 5 5 15 10 10 10 10 10 10 10 10 10 10 10 10 10	INPUT SIGNAL			NAME PLATE ENCI	10 11 1 14 15 1 24VING (4LTR LINE #2.	8 2 16 5 É 5 P			
PURCHASING E G F W N F E 6 20 00 2 6 10 4 W N - F	INPUT SIGNAL			q 13 NAME PLATE ENCH LINE #1	10 11 1 14 15 1 RAVING (4LTR LINE #2	8 2 16 5 É 5 P			
PURCHASING 6 5 5 15 10 10 10 10 10 10 10 10 10 10 10 10 10	INPUT SIGNAL			q 13 NAME PLATE ENCH LINE #1	10 11 1 14 15 1 RAVING (4LTR LINE #2	8 2 16 5 É 5 P			
IRCHASING 5 5 15 10 10 10 10 10 10 10 10 10 10 10 10 10	INPUT SIGNAL			q 13 NAME PLATE ENCH LINE #1	10 11 1 14 15 1 RAVING (4LTR LINE #2	8 2 16 5 É 5 P			

an an an an Araba an Araba. An Araba

Monsanto Instrument No. Service LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Pen Number 2 Color Pen Number 1 SCALE: Number 1 Size - Type Color Range Multiplier SCALE: Number 2	CF +1 Re Bly Gr R	nre-e d ee-m ee-m	thr Re Blu Gr	P-1 ce d e
Instrument No. Service LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 2 Color SCALE: Number 1 Size - Type Color Range Multiplier	CF +1 Re Bly Gr	2-1 nre-e d e e e n e e e c n e e e e e c n e e e e e e e e e e e e e	CI thr Re Blu Gre	P-1 ce d
Instrument No. Service LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 2 Color SCALE: Number 1 Size - Type Color Range Multiplier	CF +1 Re Bly Gr R	2-1 nre-e d e e e n e e e c n e e e e e c n e e e e e e e e e e e e e	CI thr Re Blu Gre	P-1 ce d
Service LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 3 (olor SCALE: Number 1 Size - Type Color Range Multiplier	CF +1 Re Bly Gr R	2-1 nre-e d e e e n e e e c n e e e e e c n e e e e e e e e e e e e e	CI thr Re Blu Gre	P-1 ce d e
LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 2 Color SCALE: Number 1 Size - Type Color Range Multiplier	+1 Re Bly Gr	nre-e d ee-m ee-m	thr Re Blu Gr	ce d e
LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 2 Color SCALE: Number 1 Size - Type Color Range Multiplier	+1 Re Bly Gr	nre-e d ee-m ee-m	thr Re Blu Gr	ce d e
LOCATION - PANEL Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 2 Color SCALE: Number 1 Size - Type Color Range Multiplier	+1 Re Bly Gr	nre-e d ee-m ee-m	thr Re Blu Gr	ce d e
Number Of Pens Pen Number 1 Color Pen Number 2 Color Per Number 3 (olor SCALE: Number 1 Size - Type Color Range Multiplier	Re Bly Gr R	d een	Re Blu Gr	d
Pen Number 1 Color Pen Number 2 Color Per Number 3 (olor SCALE: Number 1 Size - Type Color Range Multiplier	Re Bly Gr R	d een	Re Blu Gr	d
Pen Number 2 Color Per Number 3 (Olor SCALE: Number 1 Size - Type Color Range Multiplier	Gr R	een L	Blu Gre	<u>e</u>
Per Number 3 (Oler SCALE: Number 1 Size - Type Color Range Multiplier	R	ed		·e. 71
SCALE: Number 1 Size - Type Color Range Multiplier			· · · · · · · · · · · · · · · · · · ·	
Size - Type Color Range Multiplier				
Range Multiplier				
Range Multiplier	0.		Re	
Multiplier		-100 LINEAR	0-10	D LINEAL
ante Number 2 14/				
	1			
	Der 5			
<u>Size - Type</u>	Blue '	- Green	Blue	Green
Color Range	0-100		0-100 L	0-100 L
Multiplier	0=100	- 0-100-	0-100 -	
Mulcipiler				
CHART: Size - Type				
Range	0-10	DD. LINEAR	0-10	O LINEAR
Number				
Drive Volt Sp	beed			L
MEASUREMENT INPUT				MA DO
Range - Units	4-20		4-20	MADC
From	VAR	OUS INPUTS	VARIOU	5 INPUT
Dowor Cupple D-				
Power Supply Reg. Elec. Area Class.	GEN	PURP	GEN	PURP
DAGUA FILCU VIASS.			40.0	
Nameplate Engraving				
Red Pen				
Plug D				
Blue Pen	`	·		
Accessories:				······
Bezel Color				
RANGE PLUG5	3 @a	AC131	300 A.	2131
원 Manufacturer		P	GICIL	-0
Z Manuracturer Z Catalog No.	FISHE RD:	601	FISHE	201
2 P.O. No.	KD.	<u>+ </u>	$\neg D$	<u>AAI</u>
Manufacturer Catalog No. P.O. No. Price				······
	I			

na y≩ Setto Antor

CARE OF ALL PROPERTY I

.

C5-20(11-73)

r 7*		Monsan	to	RECEIVER	R - CONT	ROLLER	D	VISION	P	LANT	*sp S- /	EC NO.
		C D M P A N	Y	SPEC	CIFICATI	ON	AU	TH NO.	DEPT	OR AREA	SHE	
	·				DNIC - PNEL		8		••			
	LO	CATION		LECOTING	-							F
·.	Ins	trument No.			PIC	-10			PI-	12	FIC	-21
	Ser	vice				SS AIR				SS AIR		
						PRESS				PRESS		
•.	1	cation - Panel or Equip	oment No		CP				C	PI		PI
	F	Record Indicate Contr								CATE	INDIC	
3 6*		*Number of Points	01			CONTROL			1			7
6*		TNURDER OF FORMES	Teine 0		01	VE_			0	NE		INE
			Size &	Type	+	/						
	E E	Chart	Range		\rightarrow				<u>├}</u>	×	ļ,	X
	RECEIVER							· · · · · · · · · · · · · · · · · · ·		\rightarrow		<u> </u>
		· · · · · · · · · · · · · · · · · · ·	Drive	Speed	K				K			<u> </u>
	~	Scale	Size &	and the second		OVABLE				FIXED		
			Range		0-100	DLIN			0-40	OLIN	0-40	DOLIN
	·	Ratio, Cascade, Com			MAN						-	
•		Auto – Manual By Pa	ss		(YES)	NO	YES	NO	YES-	NO	YES	NO
	~	Location				REMOTE	INTEG.	REMOTE	WTEG.	REMOTE	WTEG.	REMOT
	CONTROLLER	Proportional Band %			10-1	000%						$ \ge$
	þ	Auto-Reset Mode			NO ST	OW FAST	NO S	LOW FAST	NO S	XXV FAST	NO SI	AN FA
	E	Rate Mode			YES	(NO)	YES	NO	YES	NO	YES	T NO
	8	On Measurement Incre Instrument Output	ose _		INC.	DEC	INC.	DEC	INC.	DEC	/INC.	DEC
	-	Measurement	Range 8	Units		MADC				MADE	the second s	DAMC
		Input	From		PT-				PT-		FY-	
		Controller	Range 8	Unite					1-1-	16		
	12		To			DGAM						MAD
÷	SIGNAL	Output	Range 8	Unite	Pv-	-10	<u> </u>					<u> </u>
	ŭ	Set Point		i Units			<u> </u>					
		Power Supply - Elect	From		MAN				2.1	-	MANU	
		Electrical Area Class			241				241		241	
		Accessories or Specia			NEM	<u> </u>			NEM	AL	NEM	<u>H 1</u>
												<u></u>
		RANGE PLI			ACI	51			ACI	31	ACI	31
		NAME PLF	TE	<u></u>				·				
		LINE I			PIC		·		PI-		FIC-	
		LINE 2			PROCES	SAIR				SS AIR		
	N S	LINE 3	·······		LOW P				LOW P	RESS	LP / H	
	MARKS	LINEY			X5 PS	SIG		· .	XIP	SIG	X10 5	CFM
											-	
					•							
		• .										
					1						,	
					1		· · · · · · · · · · · · · · · · · · ·					
2		Manufacturer	•		FISHE	2			FISH	FR	FISH	ER
4*		*Receiver Catalog No	····			<u> </u>			TLI		TLI	
5*	PURCH.	*Controller Catalog No			TL 10	1						
	2	P.O. No.			11-10	1					•	
		Price		·····	1 1							
				·	1 1						1	1
	DATE	- <u>_</u>					<u>4</u>	·····				
	ō.											+
	REV.	<u>2</u>										
	**	(3)				1	7					

ţ

,	Monsant	0	RECEIVE					DIVIS	-		PLANT		15-		10.
	C O M P A N	¥.,	4					AUTH	NO.	DEP	T OR AR	EA	SH 2	EET	R
<u></u>	trument No.		1	PI	~ 1	1	<u> </u>				-20	<u> </u>			
	vice					S AIR					ESS A				
		······································				RESS	1	·····			/LV				
Lo	cation - Panel or Equipn	nent No.			PI						PI				
	Record Indicate Control	I		INC		TE				INDA	2 /CON	TRO			
	*Number of Points			0	NE						ONE				
		Size &	Гуре							\sim					
ĸ	Chart	Range			\searrow						\checkmark				
N.					$ \frown$	<u>\</u>									
RECEIVER		Drive	Speed		<u> </u>	$ \ge $						\geq			
6<	Scale	Size & 1	ype	24							NOVAB				<u> </u>
		Range		0-	120	LIN					201				
	Ratio, Cascade, Compu					-	VEC		10		NO NO		YES		110
	Auto – Manual By Pass	s		-YES	1	-NO-	YES		NO	YES		Tr		_	NO
H	Proportional Band %		·	WITEO	i. K	EMOTE	INTEG	. M	EMOTE	INTEG.	REMO	IE	INTEG.	IKE	MOT
ROLL	Auto-Reset Mode			NOT	SLOW	FAST	NO	SI DW	FAST	NO S	LOW) FA	TZ	NO	SLOW	FA
_	Rate Mode			YES		NO	YES	3201	NO	YES	T (NO		YES	T	NO
CON	On Measurement Increa Instrument Output	se _	. ====	INC.		DEC	INC.		DEC	TNC.		~	, INC.	+	DEC
-	Measurement	Range &	Units	4-2	0 M		- 110.	l	010		OMAI		. 1810.		DC
	Input	From			- 1					FY-		-			
	Controller	Range &	Units				*				OMA	or			
ALS	Output	To						·			20				
SIGNAL:		Range &	Units						• • • • • • • • • • • • • • • • • • • •		-				
°	Set Point	From		-						MA	NUAL	_			
	Power Supply - Electri	ic, Pneumal	ic	24	V D C	2				241					
	Electrical Area Classil			NET	NA	I.				NEN	LAN				
	Accessories or Special														
	RANGE PL			AC	131					AC	131	_			
	NAME PLA	TE										-+			
	LINEI			PI-	the second s					FIC		_			
~	LINE 2			PROCE						PROCE		Rļ			
EMARKS	LINE 3			HIGH						HP/			· · · · · · · · · · · · · · · · · · ·		
REM	LINE 4			<u> </u>	<u>r5</u>	113				13	CFM	-+			
-					·							+			
	Manufacturer			FISH		۲				FISH	ER				
ਤ	*Receiver Catalog No.			TLI	31							$ \rightarrow $			
PURCH.	*Controller Catalog No.	•								TL10	22				
	P.O. No.														
	Price														
REV. DATE		·													
REV	<u>/2)</u>														
1	(2)						分								

. •

• ".	Monsanto			R – CONT CIFICATI DNIC – PNEL	ON	LIA	VISION TH NO.	· .	OR AREA	<u> 15-</u> 5н	PEC NO.
LOC						<u> </u>	••••••••••••••••••••••••••••••••••••••			3	DF
Inst	inment No.			PIC.			•	FI-	22	-	
Serv	vice		•	PROD	GAS				ICT GAS		
									PRESS		
Loc	ation – Panel or Equipme	ent No. 🗌		CPI				C/	וט	·	
	Record Indicate Control			INDIC	100 NTROL			INDIC	ATE		-
	*Number of Points			ON	JE			01	NE		
		Size & T	уре								
e:	Chart	Range			\swarrow				\checkmark		
RECEIVER		L									
2		Drive	Speed				1				
~	Scale	Size & T	уре	81/2"MC	VABLE			812"M	OVABLE		
		Range	·. · · · · · · · ·								
	Ratio, Cascade, Compute	er – Set	· · · · · · · · · · · · · · · · · · ·	MANU		YES	NO.	-YES		YES	NO
	Auto - Manual By Pass			CTES	NO						
E	Location Proportional Band %				REMOTE	INTEG.	REMOTE	WITEG.	REMOTE	INTEG.	REMOTI
CONTROLL	Auto-Reset Mode			10-10 NO 101	OW FAST	NO SL	OW FAST	NO ISI	OW FAST	NO	SLOW FAS
Ĕ	Rate Mode	• .		YES	NO	YES	NO NO	YES	NO	YES	I NO
影	On Measurement Increase Instrument Output	•		INC.	DEC	INC.	DEC	INC.	DEC	INC.	DEC
-+	Measurement	Range &	Units	4-201		1110.	DEC	4-20M		mu.	
	Input	From		PT-				FY-2		·· · ·	
ł	Controller	Range &	linits		MADC			K -		·	
SIGNALS	Output	Jo		PV-1		-					
S		Range &	Units						\sim		
5	Set Point	From		MANU	JAL					-	
Ī	Power Supply - Electric	, Pneumati	ic	2445				244.	DC 1		
Γ	Electrical Area Classific			NEMI	AI			NEM.			
	Accessories or Special F										
Ļ	RANGE PL			ACI	31			AC 1	3/		
Ļ		ATE									
Ļ	LINEI			PIC-		-		FI-	22		
-	LINEZ				GAS						
뜄	LINE 3			INC!	NERAT	on					
EMARKS	LINE 4				· · ·						
≝⊦										·····	
ł				+						· · · · · · · · · · · · · · · · · · ·	
ł	<u>_</u>										
f				1				·			
t											
T											
	Manufacturer			FISH	ER			FISH	ER		
<u></u> =[*Receiver Catalog No.										
ᅳᄂ	*Controller Catalog No.			TL10	1			TL 13	2		
	P.O. No.										
	Price			<u> </u>	<u> </u>						
щĻ						<u>}</u>					
REV. DATE						\$					
Ľ						$\hat{\geq}$					
<u> </u>	<u>/3</u>					3					

E

ES.

•	Monsant) ´		- CONT CIFICATIONIC - PNEL	ON		TH NO.		PLANT	IS- She	1
LO	CATION		ELECINO			<u> </u>			· · · · · · · · · · · · · · · · · · ·	4.	F
Ins	strument No.			FI-	23			TI-	24		
Ser	rvice			PRODUC	TGAS				CT GAS		
				LOW 1	PRESS			WEI	-6#1	•	
Lo	cation - Panel or Equipm	ent No.		CPI				CPI			
·	Record Indicate Control	:		IND	ICATE			IND	ICATE	ļ	
	*Number of Points			ON	E			ON	1E		
		Size & T	уре								
es.	Chart	Range			<u> </u>				\checkmark	L	
RECEIVER		L		\vdash							
E C	·	Drive	Speed							ļ	
~	Scale	Size & T	уре		" FIXE				=IXF D	ļ	
		Range		0-	5			0-10	00	ļ	
	Ratio, Cascade, Comput					VEC	1 10		1	VEC	1 10
	Auto - Manual By Pass			-YES-		YES	NO	-YES-	NO		NO
E	Location Proportional Band %			INTEG.	REMOTE	INTEG.	REMOTE	WITEG.	REMOTE	INTEG.	REMOT
CONTROLLER	Auto-Reset Mode			NO ISC	QW FAST	NO SL	OW FAST	NOS	DOW FAST	NO SI	OW FA
ITR(Rate Mode			YES	NO	YES	NO	YES	NO	· · · · · · · · · · · · · · · · · · ·	
ŝ	On Measurement Increas	• _		INC.	DEC	INC.	DEC	INC.	DEC		DEC
	Measurement		Ilnits					F	MADC	1110.	
	Input	Range & Units		4-20MADL FY-23					-24		
	Controller	Range &	Units						<u> </u>		
SIGNALS	Output	To									
IGN		Range &	Units						-		
S	Set Point	From					<u></u>		-		
	Power Supply - Electric		ic	24VD	C			241	DC		
	Electrical Area Classifi			NEM				NEM			•
	Accessories or Special	Features									
	RANGE PI	JUG		ACI	31			ACI	31		
	NAME PL	ATE.		L							
	LINEI		•	FI-2				TI-			
	LINE 2			HV /	LP			TEM		··	
EMARKS	LINE 3			PROD	GAS			WEL	1#1		
M	LINE 4			XIUU	O SCFA	۱					
æ											
					,						
ł			· · · · · · · · · · · · · · · · ·								
ł		·····								······	
ł											
ł		·				·					
	Manufacturer			FISH	ER			FISH	ER		
÷	*Receiver Catalog No.			TLIS				TL13			
PURCH	*Controller Catalog No.										
۳ ۲	P.O. No.										
	Price										
ш						4					
DATE				1		5				_	
Ĩ.	2					<u></u>					
c l				1		A				1	

. ...

._^

		to	RECEIVER SPEC ELECTRO	IFICAT	ION	2	TH NO.	DEPT OR AREA			15- /	-EC N 3 EET	RE
	strument No.	177	-25	1		171	- 2	26	l'				
<u> </u>	rvice				WCTGR.	+		PROD			[
				WEL	L#2	4		WE	11.	#3			
10	cation - Panel or Equip	ment No.		CPI				CPI	20				
	Record Indicate Control				CATE	1		IN	nic	ATE			
[*Number of Points	<u>, , , , , , , , , , , , , , , , , , , </u>			INDICATE			7) NI				
[Size & 1	voe	Kor					2141				
		Range				1			~	/			
RECEIVER	Chart	1101120			\sim	+			\times				
E E		Drive	Speed			+	1				*	T	
RE		Size & T		2111"	FIXED	1	-d	244	FIX	EN			
	Scale	Range	<u></u>			+			244 FIXED				
	Ratio, Cascade, Comp			10-12	0-1000				<u>~~</u> `				
	Auto - Manual By Pass		YES		YES	NO	YES	1	NO	YES	1	NO	
	Location			NNTEG.	REMOTE	INTEG.	REMOTE	WITEG.	R	EMOTE	INTEG.	RE	MOTE
5	Proportional Band %				5-7-	1	- I. <u></u> .					يترجب الم	
CONTROLLER	Auto-Reset Mode	Auto-Reset Mode		NO S	DOW FAST	NO SI	OW FAST	NO	SDEW	FAST	NO S	LOW	FAS
IN	Rate Mode		YES	T NO	YES	I NO	YES	1	NO	YES	T	NO	
8	On Measurement Increase Instrument Output		INC.	DEC	INC.	DEC	INC.		DEC	INC.	1-	DEC	
	Measurement			4-20	MADC	1		41-20	JM.	ADC			
	Input	From			-25	1		TT.					
5	Controller	Range & Units		-				-					. •
AL	Output	Jo				1		· -					
SIGNALS	Set Point	Range & Units		-									
		From											
	Power Supply - Electric, Pneumatic		241	ZHVDC			24VDC						
	Electrical Area Classification		NEMAI				NEI	MA	I				
	Accessories or Special Features												
	RANGE PLUG		ACI	31			AC	13		······			
	NAME PLATE												
	LINEI		TI-25				JI-26						
	LINE 2		TEMP				TEN						
MARKS	LINE 3		WEL	LAZ			WE	·	45				
EMA	LINE 4												
RE									·				
							·····				····	<u> </u>	
	·						••••••						
		·····							•				
	Manufacturer			FISHER				FISH	IF	R			
	*Receiver Catalog No	•		TLI					31				
PURCH	*Controller Catalog No				.				- 				
ā.	P.O. No.											<u></u>	
	Price												
ш				1		4						T	
DATE	\triangle					<u>s</u>							
REV. 1						<u>s</u>							
R B			سالو بوجونی ماند به مرحد مرحد	1		AT	مراه گەرالىرا لغا تارىخە مەرىيە. س				1	T	

. -·

.

areas the hundress

•

•	Monsan	ţŷ		CIFICATI	ON		VISION TH NO.	PLANT DEPT OR AREA		*SPEC NO. IS-13 SHEET RE		
LO			ELECTRO	DNIC - PNE	UMATIC					6.	F	
_	nstrument No.				PI-29			$\frac{1}{77}$	-30	1		
	vice		<u> </u>		LTGAS			TI-30 PROCESSAIR			·····	
				W		1		LP/				
Lo	cation - Panel or Equip	ment No.		CPI		1		CPI		1		
	Record Indicate Control				ICATE			and the second se	DICATE			
	*Number of Points			01		1			NE	[
		Size & 1	Гуре	$\overline{\mathbf{N}}$		1						
æ	Chart	Range							$\overline{}$			
RECEIVER	Unart											
50		Drive	Speed		\Box							
R	Scale	Size & 7	ype	244"F	IXED		~	214"	FILED			
		Range		0-5	00 🖛	0-30	$\frac{10}{2}$	0-300				
	Ratio, Cascade, Computer - Set							·····				
	Auto - Manual By Pa	SS		-YES-	NO	YES	NO	YES	-NO-	YES	NO	
ĸ	Location			NNTEG.	REMOTE	INTEG.	REMOTE	WTEG.	REMOTE	INTEG.	REMOT	
Ц	Proportional Band %			\downarrow		l						
CONTROLLER	Auto-Reset Mode				XXW FAST	NO SL	OW FAST		XAN FAST		LOW FA	
	Rate Mode		YES	NO	YES	NO	YES	NO	YES	NO		
	On Measurement Increase			INC.	DEC	INC.	DEC	INC.	DEC	INC.	DEC	
	Measurement	Range & Units		4-20N		ļ		4-20	MADC			
	Input	From		PT-7	29	l		TT-	30			
S	Controller	Range & Units										
SIGNAL:	Output	To		<u> </u>								
SIG	Set Point	Range & Units			-		······			ļ <u></u> ,		
	Dawas Graniu - Elast	From Electric Preumatic			-							
	Power Supply – Electric, Pneumatic Electrical Area Classification		241				241					
	Accessories or Special Features		NEMAI				NE	TAN		···		
			AC	121			AC	31				
		RANGE PLUG			151			AC	151			
	NAME PLATE			PI-2	29			TI-	20			
	LINE 2		PRESSURE				TEN					
S	LINEZ			WELL #3		· · · · · · · · · · · · · · · · · · ·		TO				
MARKS	LINE 4			1-2					LLS			
B												
_						······································						
											-	
	Manufacturer			FISH	ER			FISH				
Ξ	*Receiver Catalog No			TLIE	TLIJI			TLI	31			
PURCH.	*Controller Catalog No	D		<u> </u>								
-	P.O. No.											
_	Price			1,		<u> </u>				· · ·		
DATE					4						_	
A					4	<u>s</u>						
REV.	<u>/2</u>					<u>~</u>						
[(3)					(7)						

.

ł

<u>,</u>

•

÷ . •

• • •

7 *			. 0		E - CONT CIFICATI INIC - PNEL	ON		IVISION		OR AREA	15-	SPEC NO. /3 HEET RE
	Ins	trument No.			PI-	27	<u></u>		PI-	28		
•		vice				CTGAS	<u> </u>	<u></u>		TGAS		
			<u></u>		WELL	<u>/~ (-)</u> #				$L^{#2}$		
		cation - Panel or Equip	ment No.		CPI	••••••			CPI	<u> </u>		
•		Record Indicate Contro		7		ICATE				CATE	<u> .</u>	•
3 6*		*Number of Points										·
ę			Size &	Size & Type		IE			01	VE	<u> </u>	
			Range	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,								
	町	Chart	Nange		\rightarrow	<u> </u>				<u> </u>		
	RECEIVER		Drive	Speed	+-/							
	E E		Size & 1		21611	TIXED			211.14	IXED		
		Scale	Range	Туре	0-50		0-30	2)-	C 14 1	IVED	- 0-	200
		Ratio, Cascade, Comp	-		0-30				10-20	- 02	~	300
		Auto - Manual By Pas			YES	1	YES	NO .	YES		YES	NO
•		Location	• • • • • • • • • • •		NNTEG.	REMOTE	INTEG.	REMOTE	INTEG.	REMOTE		REMOTE
	ROLLER	Proportional Band %			- North	TUCH	milla.	INCINOTE	Villa.	THEMOTE	10120.	INEMOTE
	5	Auto-Peset Mode	· · · · · · · · · · · · · · · ·		NOTSD	W FAST	NO SI	OW FAST	NO SL	DW FAST	NO	SLOW FAST
	NTR	Rate Mode			YES	NO	YES	NO	YE8	NO		NO NO
	CONT	On Measurement Increa Instrument Output	se _		INC.	DEC	INC.	DEC	INC.	DED		DEC
		Measurement	Range &	Units		MADC	1110.		······	MADE		
		Input	From		PT-				PT-2		·····	
		Controller	Range &	linits					FI-C	<u> </u>		
÷	FS	Output	To			-						
	SIGNALS	······································	Range &	Units				- 11 - 11 - 14 - 26 - 2		- •	·····	
	5	Set Point	From		3					•		
		Power Supply - Electric, Pneumatic		2411	70			241	Dr	÷		
		Electrical Area Classification		NEM				NEMAI				
		Accessories or Special Features										
	[RANGE	PLUG		ACI	31			ACI	31		
		NAME PLATE							1		·····	
		LINE			PI-27				PI-28			
		LINE Z			PRESSURE				PRESS			
	¥.	LINE 3			WEL				WELL			
	EMARKS	LINEY										
										·	•	
									·			
2		Manufacturer			FISH				FISHI	ER		·······
(*	공	*Receiver Catalog No.			TL131				TL131			
5*		*Controller Catalog No.										
		P.O. No.		·								
		Price					<u> </u>					
	DATE											
Ì	A L						<u>s</u>					
	REV.											
					1 i		21					

-1.5

						- <u>I</u>	עום	ISION		PL	ANT		SPF	- NO,
	Monsanto)	RECEIVER			R			· · · · · · · · · · · · · · · · · · ·		· ·	15-	_1.	
.	COMPANY					Į	AUTH NO.		DEPT OR AREA		OR AREA	1	SHEE	T R
LO	CATION		ELECTRO									8	_0F_	
Ins	C O M P A N Y OCATION Instrument No. Instrument No. Instrument No. Instrument No. Instrument No. Instrument No. Instrument Increase Instrument Inc			TI					TI-32					
Ser	vice				SS AIR			PRODUCTGAS		CTGRS				
-	cation - Panel or Equipme	ant No		HP/L CPI	.V					21	>1			
			میں اور بریار ہے۔ میں اور بریار ہے۔			+-	·····	· .	÷		CATE			
	the second se					+					E			
		Size & T	уре		/	1		- -						
e e	Chart	Range			\checkmark					\leq	\sim			
E E		<u>.</u>				-		T		\leq	\searrow			
REC			Speed	2111		\		L	214		IXED			_ .
	Scale			244 FIXED					0-3				·	
			1 <u> </u>					<u> </u>	_	-				
				¥ES-	NO	_	'ES	NO	YES		-NO-	YES		NO
F				WTEG.	REMOTE	IN	TEG.	REMOTE	WTEC	ì.	REMOTE	INTEG	i.	REMOTI
ILLER							0.111 1 5 4 0 5		-		110	1 01 5	<u></u>	
IRO				ل المبينية ال	DOW FAST			······		sba	NO FAST	NO	SLO	
CON	On Measurement Increase		INC.	DEC	_	ES	NO DEC	YES		DEC	YES INC.		NO DEC	
		Range &	Units		MADC	<u>\</u> "		020		·	JADC	1.102	·1	
	Input	From		TT-					TT					
S	Controller	Range &	Units	-							-			
SIGNALS	Output	To	Halfa		-						•			
સં	Set Point	Range & Units From				┿╼								
	Power Supply – Electric, Pneumatic		24VDC		+			24VDC		SC			i-	
	Electrical Area Classification		NEMAI					NEMAI						
		Accessories or Special Features												
	RANGE PLUG			ACI			······	AC	13	51				
	NAME PLATE			TI-	+			TI			<u></u>			
	LINE 2			TE	+			TE						
Š	LINE 3				AIR TO						GAS			
REMARM	LINE H				WELLS				TO					
2						_								
													-	
						+								
	<u> </u>					1-								
						1								
		•												
	Manufacturer *Receiver Catalog No.	·····	······	FISH					FISHER					
PURCH.	*Receiver Catalog No. *Controller Catalog No.			TLI	<u>s</u>				TLI	31				·····
B	P.O. No.					1-						<i></i>		
	Price													
Ш						$\underline{\mathbb{A}}$						_		
REV. DATE			· · · · · · · · · · · · · · · · · · ·	+	 	$\underline{\mathbb{A}}$								
REV				+	 -	$\frac{\mathbb{A}}{\mathbb{A}}$		· ··· ·						
باليسب	<u> </u>	·	·····	1	L	<u>77</u>	I	<u>.</u>		•	·.			

P

				IFICAT	ION	ER		TH NO.		PLANT		<u>15-</u> s	<u>13</u>	RI
LO	CATION		ELECTRO	NIC - PNE	UMATIC					; `	••••	19	OF	_//
Ins	trument No.	·		FI-	33 A	T			FI	- 33	B	-	IS- 13 SHEET 9 9 0F - -	
Ser	SP COMPANY SP ELECT				KTGA	st				DUCT (
-	Instrument No. Service Location – Panel or Equipment No. Record Indicate Control *Number of Points Chart Chart Size & Type Range Ratio, Cascade, Computer – Set Auto – Manual By Pass Location Proportional Band % Auto-Reset Mode Rate Mode On Measurement Increase Measurement Range & Units			HP	/LV	_			H	P/LV	/			
Lo	cation - Panel or Equip	oment No.		CPI	/ /					P-1				
	Record Indicate Contr	rol		INDICATE		.				CAT	E			
	*Number of Points	······		-	NE		-			NE				
		Size & T	Size & Type			1					/			
~	Chart	Range			$\overline{}$									
N							-			$\overline{}$				
с Ш	,	Drive	Speed			Z								
8		Size & T	Туре	214"F	TXED					\$" F1				
				0-100LIN				0-4	01	IN				
	the second s	SS		YES	NO		YES	NO	-YES-) –		SHEET	NO
Ľ				WTEG.	REMO	RE	INTEG.	REMOTE	INTEG.	RE	NOTE	INTEG	RE	MOT
PURCH. REMARKS SIGNALS CONTROLLER RECEIVER RECEIVER						10 10	OWLEAST				10	01.014	1 -	
TRC					DOW FA			OW FAST	4		FAST		SLUW	F/
NO		010		INC.	1 10		YES	NO	YES	_	NQ		<u> </u>	NO
_					DEC	_	INC.	DEC	INC.	AM 0	EC	INC.		DE
			Units		MALC									
			Ilaite	FY-	<u>328</u>	\rightarrow				-33				
S							·····-							
GN	· · · · · · · · · · · · · · · · · · ·	1	Units	\rightarrow	\leftarrow	-+-				\succ				
2	Set Point	From						· · · · ·						
	Power Supply - Elect			24VEC		\uparrow			24	VD	C			
ľ	Electrical Area Classification		NEMAI					NEN						
	Accessories or Special Features													
[RANGE PLUG		ACI	31				AC	- 13	1				
	NAME PLATE													
				FI-33A					FI-33B					
ļ					HP/LV				HP/LV.					
¥.		LINE 3			Ghis	_			PROJ					
MA	LINEY				SCFN	$\Lambda \downarrow$			XI_	SC	FM			
				[
ł			-		······									
H	· · · · · · · · · · · · · · · · · · ·		~		····	_								
ł														
-														
ŀ														
	Manufacturer			FISH	FR				FIC	HE	R			
÷	*Receiver Catalog No			TL13						131				
22		Controller Catalog No.		16/01						1				
2	P.O. No.			6					/	1				
	Price													
ш	A 15542 D TO	PURCH	FI-33A	DC	6-78		2							
M	A		FJ-33B	RGC	7-6-78	ß	7							
REV.		·				Ŀ	2				•			
					1	A								

•

	Monsant		RECEIVER		- CONTROLLER		AUTH NO.		OR AREA	*SPEC NO. 15-13 SHEET RE		
LC	DCATION		ECTRONIC - PNEUMATIC						100			
Ī	istrument No.			IZK.	-102	ř		Í		T		
	rvice				NSFER				•			
F					TION							
tu	ocation - Panel or Equipr	nent No.	<u></u>		ASE UK 102				•			
-	Record Indicate Contro											
	*Number of Points	•		TRANSFER STA. MULTIPLE								
		Size & T	vpe	Kin								
		Range				· · · · · · · · · · · · · · · · · · ·						
RECEIVER	j Chart				\times							
E	Ĵ.	Drive	Speed	1	$\neg \overline{}$		1		1		1	
1		Size & T		BLI	ANK				4			
	Scale	Range	·	-								
	Ratio, Cascade, Compu	iter – Set					<u></u>				•	
		Auto – Manual By Pass			NO	YES	NO	YES	NO	YES	NO	
	Location			YES	. REMOTE	INTEG.	REMOTE	INTEG.	REMOTE	INTEG.	REMOT	
la l	Proportional Band %								*			
	Auto-Reset Mode			NO	SDOW FAST	NO SI	OW FAST	NO SL	OW FAST	NO S	LOW FA	
	Rate Mode			YES	NO	YES	NO	YES	NO	YES	NO	
18	On Measurement Increase Instrument Output			INC.	DEC	INC.	DEC	INC.	DEC	INC.	DEC	
	Measurement Range & Units		NON	IE · ·								
	Input	From										
0	Controller	Range &	Range & Units		DMADC							
SIGNALS	Output	To			TIPLE					•		
SIG	Set Point	Range & Units		NC	INE							
		From		<u> </u>								
	Power Supply - Electric, Pneumatic		.24	JOL								
	Electrical Area Classification		NE	MAI								
	Accessories or Special Features				•							
	RANGE PLUG		<u> </u>									
	NAME PLATE											
	LINEI		ZK-	-102								
	LINE 2		ļ						· • · · · · · · · · · · · · · · · · · ·			
EMARKS	LINE 3					-				·		
EMA	LINE 4			 								
2										····:		
				<u> </u>			·					
			·····									
				+							·	
			······································									
-	Manufacturer	·····		FICI	HER							
				FISHER								
PURCH.	*Controller Catalog No.				113							
P	P.O. No.											
	Price											
ш				<u>'</u>		4				1	1	
DATE	$\overline{\mathbb{A}}$		·			\$						
REV. C				1								
1 11				1	+ I *	~						

- -----

Martine and State
 Martine and State<

:

n na an an an

Monsanto	INSTRUMENT SPECIFICATIONS	DIVISION	PLANT DEPT OR AREA	SPEC
Instrument No. FY-2 Service	0 & FY-21			
Equipment No. or Line No. & Size Process Material			· · · · · · · · · · · · · · · · · · ·	
<u> </u>	ter to solve Gas	Flow Equation	n Q=Killh)x(P)+
Input Signa	15: 1846 ave	1-5VDC .	A is 4-20	maDC
Ouput Signe Power Supply		4-20 MADC 115 VAC,60	HZ.	
· / /			•	· · · · · · · · · · · · · · · · · · ·
INSTR#: FY	20	Instr.	": FY-21	
A=h=0-100"NC=4-	20-map = 0-1.0 Multply	A= h= 0-100"NC	= 4-20 ma. DC= 0	-1.0 Mu
Flow= 0-120 scfm B= P= 14,7-1014,7 PSIA	=1-5VDC= 014-1.197	F/0w = 0-4 B=P=14.7-4/4.	1PSIA =1-5VDE=	.04-
<u> </u>	Muttiple.	······································		Mult
C = T = 460-960 Fab	s=1-51.DC=660-1.263 Multiplier	C=T=460-960F	abs=1-5VDC=	·60-1 Muli
Max h - Normal P		Marh - Norma	IPET CONDITION	
h= 100"NC = 5.0VDC=	I.D EACTOR	h= 100" WC = 1		
P=1014.7FSIA = 4.341	X=110 FACTOR	P=3:4.7 PSIA = 4	4.52VDC = 1.0	FACTO
$T = 760^\circ Fabs = 4.17V$	DC = 1.0 FACTOR	T=760°Fabs =4	1.17YDC = 1.0	FACTO
$O_{VTPVT} = (1.0) \times (1.0)$	(1.0) = 1.0 = 20 ma D	OUTPUT = (1.0)	(1.0) + (1.0) = 1.0	= 20m
Normal h, PST CON	UDITION !	Normalh, P	ET CONDITIO	N
h= 70.7"W.C. = 3.0V	NC = 11.5 FACTOR	b=70.7"WC =	3.011 D(= 0.	5 EACT
PETAS ABOVE		PET AS A		
OUTPUT= (0.5)×(1.0)	- (10)=0.5= 10- Nr	AUTDUT = [A.S	× (10) + (10)=A	5= 10
	,. (110)-013- 12maDC			14
·····	·····			
· · · · · · · · · · · · · · · · · · ·				
······		······································		
8 Manufacturer	AGMEI	ectionics		
Manufacturer Catalog No. P.O. No. Price	TA 4	049		
Price				
	IRCHASE RGC 6-21-TO			
A A		<u>5</u>		
1 7 5 1	1 1			1 1

()

(

• * •

Monsanto	INSTRUMENT SPECIFICATIONS	DIVISION	PLANT DEPT OR AREA	SPEC NO. 15 15 SHEET R
LOCATION				2_0F /
Instrument No. FY	-22, FY-23 EXTRACTOR	<u>, ry-3</u>	3A, FY-3	3 <u>3</u> B
Service $5\varphi, R\tau$. EXTRACTOR		A	
Equipment No. or Line No. & Size	· · · · · · · · · · · · · · · · · · ·			
	COULT GAS			
///				
ACCEPTS	INPUT SIGNAL	4-20 MADC	FRAM Fra	
TRANSMITT	ER CONVERTS	SIGNAL TO	4-20 MADE	L'INEAR
SIGNAL TO	ER CONVERTS FLOW INDICH	ror - Sp.	RT. EXTRA	cTore
POWER SU	PPLY : 115YAG,	60HZ		
				· · · · · · · · · · · · · · · · · · ·
	· · ·	· · · · · · · · · · · · · · · · · · ·	· · ·	
· · · · · · · · · · · · · · · · · · ·		······		· · · · · · · · · · · · · · · · · · ·
				···· ··· ··· ··· ·· ···
		· · · · · · · · · · · · · · · · · · ·		
		·		
	· · ·		······································	
	······································	·· ···	· · · · · · · · · · · · · · · · · · ·	
		• •		
	· · · · · · · · · · · · · · · · · · ·			
		· · · · · · · · · · · · · · · · · · ·		
			·	<u> </u>
	·			· · · · · · · · · · ·
	· · · · · · · · · · · · · · · ·			
	·····			
	\$ 			
	······			
		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
		····		
<u> </u>	······································			
<	······································			
· ·				
Manufacturer AGM ELE	ETRONICS			
	c/oc			
P.O. No. TA 400				
		- <u>-</u>	<u>t</u>	
H A ISSUED FOR PUR ADDED FY-33B FOR	CHASE ROC 6-28-78			
ADDED FY-33B FOR	PURC. RGC 7-7-78			
		A		

ی د رمز دیامی د

;

ţ

Ć

C

.

DIVISION PLANT Monsanto SPEC NO. INSTRUMENT IS-COMPANY AUTH NO. DEPT OR AREA SHEET REV **SPECIFICATIONS** 1 LOF. LOCATION EU-110 EU-111 ()1EX-112 Instrument No. Power Supply Back-up Service Batty Back-up BuerSystem Equipment No. or Line No. & Size Process Material Location ; Panel No. CP-1 CP-1 Control Room Function: Primary, Back-up, Battery B/U Primary Back-up Batty Back-up Signals : Imput Volt & Freq Imput Power or Rating 117 V,60 HZ 117V,60HZ ITV, 60 HZ 30mp 3'amp 700 watts Input from Output the Itage (5) Output Power or Rating +5, ±15, +24/06 +5, ±15, +24VDC 450 watts /30min Output to UA-101, UK-102 UA-101, UK-102 EU-110, -111 Output load adjust (ohms) Transfer Speed Alarm Set Pt. Alarm Set Pt. Imput Fuse Output Fuse Eléc Area Class 2.00mps 2,0 amps ()Nema I. Nema I. NamaI Cabinet 1 Mounting U-Charnel U-Channel Wall Mtd ¢ Options: Ni-Cad Batty with Mty Rack Model BATFA Manufacturer Catalog No. P.O. No. Price Fisher FISher Fisher 769 764 768 A Ø 4 PC 6-78 ▲ RGC 7-578 ⓑ 15SUED FOR PURCH DATE 1 DELETED EX-112 REV. \mathbb{A} 2A FS 118 (10/44)

Mic	onsa	ກໂວ		001			COM	IPANY	PL	ANT	1S- 2	SPEC	NO.	1
					ROL VAL		TUA	H NO.	DEPT	AREA		SHEE		RE
				orto	ILICATIO						1	OF		
-	ATION				PV-	10			FV-2					
		TNUMBER			AIR HDR.					FLOW				
	VICE E NUMBE	R			2"-1P-	-1" I	A			2-11/2"I	A			
-	CESS MA	the second s			COMPR				COMPR	AIR				
-	FLOW				LIQ G	AS STM	LIQ	GAS STM	the second se	AS) STM	LIQ	G	AS	STM
	FLOW T	EMPERATURE,	Tf		3000		L		300					
. ◄		IG PRESSURE IP			400			<u></u>	the second second second second	PSIG				
DATA		TO CLOSE AG			400	PSIG				O PSIG				
		LIQ # Tf. GAS	APOR PRESSU		0.024	T		T	0.024	T		~		
ESIGN	NORMA		MAX FLOW		0	3750	<u> </u>			125				
ŭ		NITS: SCFM. S				FM				FM				
		TRAVEL AP			69	400				100				
	FLOW	. Cg. OR Cs			summaries designed and the second sec	19.2				0.52				
		VALVE BODY					ļ	1		2"	· .		con I	FLO
			G & END CON	NECTION		SCR FLG		SCR FLG		SCR FLG			SCR	FLO
		BODY MATER		C 07.C		CV=35	ļ	1		CV=.95			<u>.</u>	
		SEATS	MAXIMUM Cv.	Lg. UN LS	(SP) DP	<u>CV-33</u>	SP DP	· ·	SP DP		SP	DP		
v	ALVE	TRIM MATERI	AL			ESS STL		1		ESS STL				
	ECIFI-	TYPE INNER				10				LUTE				
	TION	FLOW TENDS	TO		CLOSE	OPEN)	CLOSE	OPEN	CLOSE	(OPEN)	CLO	SE	OPE	N
		PACKING			TEF	LON				LON	L			
		GUIDING			SKIRT T	DP STM	SKIRT T	OP BTM.	SKIRT 1	OP BTM	SKIRT	TC	DP 1 0	3TM
								0.070.0	- ALANNA	DISTON	014	PU I	DICTO	201
		VALVE ACTU			DIAPH	PISTON	DIAPH	PISTON	DIAPH	PISTON	DIA		PISTO	
		VALVE ACTU	URE VALVE	IC BANCE	CLOSES (OPENS	DIAPH CLOSES	OPENS	CLOSES	OFENS	CLOS		OPEN	¥5
SIGN	NAL FRO	VALVE ACTU ON AIR FAIL ACTUATOR S	URE VALVE	NG RANGE	CLOSES	OPENS)		OPENS PSI		OPENS		ES		¥5
SIGN	NAL FRO	VALVE ACTU	URE VALVE	NG RANGE	CLOSES (OPENS)	CLOSES	OPENS PSI	CLOSES	OPENS	CLOS	ES		NS _ P ⁴
		VALVE ACTU ON AIR FAIL ACTUATOR S	URE VALVE		CLOSES	OPENS)	CLOSES	OPENS PSI	CLOSES	OFENS) 3-15 PS1	CLOS	A DC	OPEN YES	NS P*
		VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLED	URF VALVE IZE SPRIN R – UNITS MODEL NO.	EYPASS OUTPUT REGULATOR	CLOSES	OPENS -/5 PSI YES NO YES NO	CLOSES	OPENS PSI PSI PSI	CLOSES By FAIred 4-20 MA DC PSI	OPENS 2-75 PSI YES MO YES NO	CLOS	A DC	OPEN	NS P ^r
v	ALVE PO	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLED	URE VALVE SIZE SPRIM R - UNITS MODEL NO. INPUT AIR SUPPLY MODEL NO.	BYPASS OUTPUT REGULATOR NEMA	CLOSES VENDCO	OPENS -/5 PSI YES TO PSI YES NO 4,7	CLOSES	OPENS PSI PSI PSI PSI PSI PSI	CLOSES BY FARCE 4-20 MADO PSI 540	VES NO YES NO	CLOS	ADC PSI	OPEN YES	NC
v	ALVE PO	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLED	URE VALVE SIZE SPRIN R - UNITS MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT	EYPASS OUTPUT REGULATOR NEMA OUTPUT	CLOSES BY ENDCR 4-20 MA DC PR PSI 5-4/6 4-20 MA	0PENS -75 PSI YES 170 PSI YES 170 41,7 2-15 PSI	CLOSES 4-20 MA DO PSI PSI MA	OPENS PSI PSI PSI PSI	CLOSES By F-MGR 4-20 MA DG PSI S 4/0 4-20 MA	0FENS 2-7,5 PS1 YES MO PS1 YES MO 4,7 3-7,5 PS1	CLOS	PSI PSI MA	OPEN YES	NC
v	ALVE PO	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLFI OSITIONER	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY AIR SUPPLY	BYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR	CLOSES BENDER -3 4-20 MA DC -20 MA DC -20 MA -20	0PENS -15 PSI YES TO YES TO 14,7 2-10 PSI 12-10 PSI (ES) NO	CLOSES4-20 MA DCPSIPSIMAPSI	OPENS PSI YES NO PSI YES NO PSI YES NO YES NO YES NO	CLOSES B F - 100 4-20 MA DO PSI S 4/0 4-20 MA 20 FSI 3-4/0 4-20 MA	0FENS 2-75 FSI YES FTO YES TTO YES TTO 4.7 3-75 FSI 3-75 FSI (ES) NO	4-20 M	PSI MA PSI	OPEN YES	NS P ^r NC
v/ 1	ALVE PO	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF OSITIONER NSDUCER	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY INPUT AIR SUPPLY IPED & MOUN	BYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED	CLOSES <u>UENDCR</u> 4-20 MA DC <u>PR</u> 	0PENS -75 PSI YES 170 PSI YES 170 41,7 2-15 PSI	CLOSES 4-20 MA DO PSI PSI MA	OPENS PSI PSI PSI PSI	CLOSES By F-MGR 4-20 MA DG PSI S 4/0 4-20 MA	0FENS 2-7,5 PS1 YES MO PS1 YES MO 4,7 3-7,5 PS1	CLOS	_PSI PSI PSI PSI MA PSI	OPEN YES YES	NS P P NC P
v/ 1	ALVE PO /P TRAP SOLENC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLFI OSITIONER	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY PIPED & MOUN URE CONTROL	BYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED	CLOSES BYENDOR 4-20 MA DG 4-20 MA DG 	0PENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DCPSIPSINAPSI YES_NO	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES B F	0FENS 2-75 FSI YES MO YES MO 4,7 3-75 FSI ESI NO BY OTHERS	4-20 M	-P\$1 -P\$1 -P\$1 -P\$1 -P\$1 -P\$1 -P\$1 -P\$1	OPEN YES YES YES BY OTH	
v/ 1	ALVE PO /P TRAN SOLENC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLER OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY PIPED & MOUN URE CONTROL AGE – STD	EYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED	CLOSES BY ENDOP 4-20 MA DC 4-20 MA DC	0PENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV F-MOR 4-20 MA DC PSI ST46 Y-20 MA 20 FSI VES NO CLOSES	0FENS 2-75 FSI YES MO YES MO 4,7 3-75 FSI ESI NO BY OTHERS	4-20 M	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH	NC PS NC
solenoid	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL VOLT DID COIL TYPE	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY PIPED & MOUN URE CONTROL AGE – STD – CLASS NUFACTURER	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES BY ENDOR 4-20 MA DC 4-20 MA DC 	OPENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV F-MGR 4-20 MA DO PSI ST4(0 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	OFENS 2-75 FSI YES TRO YES TRO YES TRO 951 YES TRO 951 YES TRO 951 951 951 951 951 951 951 951	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
SOLENOID	ALVE PO /P TRAN SOLENC ON ELEC SOLENC SOLENC SOLENC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DSITIONER DSITIONER DD VALVE - P CTRICAL FAIL DD COIL VOLT DD COIL TYFE DD VALVE MA DD VALVE CA	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY NEC ONITROL AGE – STD – CLASS NUFACTURER TALOG NUMB	EYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
SOLENOID	ALVE PO /P TRAN SOLENC ON ELEC SOLENC SOLENC SOLENC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DSITIONER DSITIONER DD VALVE - P CTRICAL FAIL DD COIL VOLT DD COIL TYFE DD VALVE MA DD VALVE CA	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY NEC ONITROL AGE – STD – CLASS NUFACTURER TALOG NUMB	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV F-MGR 4-20 MA DO PSI ST4(0 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
N SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATORS M CONTROLLF OSITIONER OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL VOLT DID COIL TYFE DID VALVE CA G YCIC	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY DEC & MOUN URE CONTROL CLASS NUFACTURER TALOG NUMB	EYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
N SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DSITIONER DSITIONER DD VALVE - P CTRICAL FAIL DD COIL VOLT DD COIL TYFE DD VALVE MA DD VALVE CA	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY DEC & MOUN URE CONTROL CLASS NUFACTURER TALOG NUMB	EYPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
N SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY DEC & MOUN URE CONTROL CLASS NUFACTURER TALOG NUMB	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
dionatos M	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. AIR SUPPLY AIR	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN A UNITS MODEL NC. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY AIR	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR VALVE OTHER MOLDED TO FACE TO FACE TO CENTER	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
dionatos M	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC 4X.C	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY AIR SUPPLY AI	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	NC PS NC
	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY NECONITROL AGE – STO – CLASS NUFAC TURER TALOG NUMB DES, CON A. FACE B. FACE C. FACE D. CLEAR E. CLEAR	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>756666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
dionatos M	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC	VALVE ACTU ON AIR FAIL ACTUATORS M CONTROLLED OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL TYPE DID VALVE CA 9 YCI C DID VALVE CA	URE VALVE SIZE SPRIN R – UNITS MODEL NO. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY INPUT AIR SUPPLY INPUT	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE ATOR DIA	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI YES TO PSI YES TO PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	0FENS 3-75 FSI YES RO YES RO 9-75 FSI 9-75 FSI 9-7	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
DIMENSIONS Z SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC ALLATIC	VALVE ACTU ON AIR FAIL ACTUATOR S M CONTROLLF DIDIONER DIDIONE DIDIONE DIDIONE DIDIONE DIDIONER DIDIONER DIDIONER DI	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY INFO & MOUNTO INFO CLASS NUFACTURER I. C. FACE D. CLEAR H. ACTUA J. ACTUA J. ACTUA	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE	CLOSES BY ENDOR 4-20 MA DC 4-20 MA DC 4-20 MA DC 4-20 MA DC 120 MA 120 MA	OPENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV FANGE 4-20 MADC PSI ST46 Y-20 MA 20 PSI PSI ST46 Y-20 MA 20 PSI 120V 6042 AFH SZ	OPENS 2-75 FSI YES TO YES TO YES TO BY OTHERS YES TO STAND	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
DIMENSIONS Z SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC ALLATIC CRS VALVE	VALVE ACTU ON AIR FAIL ACTUATORS M CONTROLLFI OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL TYPE DID VALVE CA 9 YCI C DIN DETAIL NO	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MCDEL NO. INPUT AIR SUPPLY INFO & MOUNTO CLASS NUFACTURER C. FACE D. CLEAR H. ACTUZ J. ACTUA ER	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE ATOR DIA	CLOSES <u>BYENDOR</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA DC</u> <u>7546</u> <u>4-20 MA</u> <u>7546</u> <u>4-20 MA</u> <u>5746</u> <u>4-20 MA</u> <u>7516</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7546</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>7566</u> <u>75666</u> <u>75666</u> <u>75666666666666666666666666666666666666</u>	OPENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSES 4-20 MA DC PSI PSI MA PSI YES NO CLOSES 120V 60Hz	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES U.F. MOR 4-20 MA DO PSI ST46 4-20 MA PSI PSI PSI PSI PSI PSI PSI PSI	OPENS 2-75 FSI YES TO YES TO YES TO BY OTHERS YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES ST	CLOS 4-20 M 	_P\$1 _P\$1 _P\$1 _P\$1 _P\$1 i0 _SES _S0Hz	OPEN YES YES YES BY OTH OPEN	
URCH. DIMENSIONS Z V SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC ALLATIC PURCHA	VALVE ACTU ON AIR FAIL ACTUATORS M CONTROLLER OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL VOLT DID COIL VOLT DID VALVE CA 9 YCI DN DETAIL NO CATALOG NUM	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY AIR SUPPLY AI	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE ATOR DIA	CLOSES BY ENDOR 4-20 MA DC 4-20 MA DC 4-20 MA DC 4-20 MA DC 120 MA 120 MA	OPENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSESPSIPSIPSIPSIPSIPSIPSICLOSES 120V 60Hz A F H	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV FANGE 4-20 MADC PSI ST46 Y-20 MA 20 PSI PSI ST46 Y-20 MA 20 PSI 120V 6042 AFH SZ	OPENS 2-75 FSI YES TO YES TO YES TO BY OTHERS YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES ST	CLOS 4-20 M 	PSI PSI PSI MA PSI MA PSI iO SES SOHz	OPEN YES YES YES BY OTH OPEN	NC PS NC
URCH. DIMENSIONS Z V SOLENOID	ALVE PO /P TRAN SOLENC SOLENC SOLENC SOLENC SOLENC SOLENC SOLENC ALLATIC ALLATIC PURCHA	VALVE ACTU ON AIR FAIL ACTUATORS M CONTROLLED OSITIONER NSDUCER DID VALVE - P CTRICAL FAIL DID COIL VOLT DID COIL VOLT DID COIL VOLT DID VALVE CA B YC I C DID VALVE CA C C C C C C C C C C C C C C C C C C	URE VALVE SIZE SPRIN R – UNITS MODEL NC. INPUT AIR SUPPLY MODEL NO. INPUT AIR SUPPLY AIR SUPPLY AI	EVPASS OUTPUT REGULATOR NEMA OUTPUT REGULATOR NTED VALVE OTHER MOLDED TO FACE TO FACE TO CENTER ANCE ANCE ATOR DIA	CLOSES BY ENDOR 4-20 MA DC 4-20 MA DC 4-20 MA DC 4-20 MA DC 120 MA 120 MA	OPENS -15 PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	CLOSESPSIPSIPSIPSIPSIPSIPSICLOSES 120V 60Hz A F H	OPENS PSI YES NO YES NO PSI YES NO BY OTHERS OPENS	CLOSES EV FANGE 4-20 MADC PSI ST46 Y-20 MA 20 PSI PSI ST46 Y-20 MA 20 PSI 120V 6042 AFH SZ	OPENS 2-75 FSI YES TO YES TO YES TO BY OTHERS YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES YES TO STORES ST	CLOS 4-20 M 	PSI PSI PSI MA PSI MA PSI iO SES SOHz	OPEN YES YES YES BY OTH OPEN	NC PS NC

- --

ES 110 REV 1/72

21(onsa	nto		CON		LVE	cc	MPANY	Pi.	ANT	IS- 2	с NO. 7 🙉
					CIFICATI		AU	TH NO.	DEPT	AREA	SHE	ET
LOC	CATION_							· i			2 or	
INS	TRUMENT	I NUMBER	• • • • • • • • • • • • • • • • • • •		FY-	21			PV-	17	T	
SER	VICE	7 N.	C		LP AIR	R, FLOW	ĹŔ_		GAS HOR	CONTROL		•
LIN	E NUMHE	R				-11/2 "I			6 * 7G	·3" I	1A	
PRC	CESS MA	TERIAL			COMPR	Contraction of the local division of the loc				TGAS	<u> </u>	
	FLOW		Τ.				Lia	GAS STM		AS STM		GAS S
		G PRESSURE (3000			·····	7500		1	
ATA		TO CLUSE AG			350		<u> </u>		350	rsig	10	
٩d	L	LIQ @ Tf. GAS		PSIA)	1.0	1 0 10	1		0.83		† .	
Z	VISCOS	ITY TE V	APOR PRESSU	IRE @ Tf. PSIA	0.024	1	1	1		í		1
<u>1</u> 2	NORMAL	L FLOW	MAX FLO	N	3000	3750			3500	5000		
۵	FLOW U	NITS: SCFM,	SCFH, GPM, #	:/HR	SC	FTA	<u> </u>		50	FM	A	
		TRAVEL Ap			64					45	16/0	
	FLOW C	v. Cg. OR Cs			ICV	= 49			the second s	-2.54		
		VALVE BOD	G & END CO	NNECTION	2007	SCR FLG		Ison Loro		UNFERS	-21	Leon Le
		BODY MATER		THECHON .		UN STL	4	SCR FLG		SCR (FLG	70	SCR I
			MAXIMUM CV.	Ca. 08 Ca		EV=121		1	210-	55. CV=460	ind the second second	1
		SEATS		-9, 01 05	(SP) DP	and an owner of the owner, where a sub-	SP DP		SP DP	-1-4-06	SP DF	
v	ALVE	TRIM MATERI	IAL		<u> </u>	ESS STL	1	A	STHINLE	SS STL		
SP	ECIFI-	TYPE INNER	VALVE		EQ		1		VEEP		<u> </u>	
C/	ATION	FLOW TENDS	то		CLOSE	(OPEN)	CLOSE	OPEN	CLOSE	(OPEN)	CLOSE	OPEN
		PACKING			TEF	LCN			GRAPH	ITE		
		GUIDING			SKIRT			TOP BTM	+dan	OP 6TM	SKIRT T	OP B1
•	•	VALVE ACT			(DIAPH)) PISTON	DIAPH	PISTON	DIAPH)	PISTON	DIAPH	PISTO
		ON AIR FAIL		. <u></u>	CLOSES	- OPENS)	CLOSES	OPENS	CLOSES	OPENS	CLOSES	OFEN
		ACTUATOR S		NG RANGE	GO MAD	PSI	4-20 MA D	PS1	4-20 MA DC	PSI	4-20 MA DC	
101	NAL FROM	MCONTROLLE	MODEL NO.	BYPASS	A-20 MAD	YES NO	4-20 MAD	YESINO	2511	YES NO	4-20 MADC	YES
v	ALVE PO	DSITIONER	INPUT	OUTPUT	PS	PSI	PS		3-15 PSI	3-15 PSI	PSI	1-1-1-1
			AIR SUPPLY	REGULATOR	PS	VES TO	PS	I YES NO	30 PSI	YES NO	PSI	YES
			MODEL NO.	NEMA	546	4.7			546	4.7		
1	/P TRAN	ISDUCER	INPUT	OUTPUT		3-15 PSI	MA	PSI	4-20 MA	<u>3-15</u> PSI	MA	
			AIR SUPPLY	REGULATOR	<u>30</u> ps		PS	I YES NO	30_PSI	(YES) NO	PS1	YES
		ID VALVE -			TES NO	BY OTHERS	YES NO	BY OTHERS		BY OTHERS	YES NO	BY OTHE
		TRICAL FAIL	URE CONTRO!	. VALVE	CLOSES	OPETIS	CLOSES	OPENS	CLÒSES	OPENS	CLOSES	OPEN
2					1			2 .	120V 60H2		120V 60Hz	
	SOLENO	D COIL VOLT		OTHER	120V 60Hz	*	120V 60H	Luca Luca	11-1-12	ireal no	A La Lut	
SULENUID	SOLENO SOLENO	D COIL VOLT	- CLASS	MOLDED	120V 60Hz	*	120V 60H	YES NO	AFH	YES NO	AFH	YES
SULENUID	SOLENO SOLENO SOLENO	ID COIL VOLT	- CLASS	MOLDED	L	*	 	YES NO	AFH	YES NO	AFH	YES
	SOLENO SOLENO SOLENO	ID COIL VOLT ID COIL TYPE ID VALVE MA	- CLASS NUFACTURER TALOG NUMB	MOLDED RER	AFH	YES NO	 	YES NO			1	YES
	SOLENO SOLENO SOLENO	ID COIL VOLT ID COIL TYPE ID VALVE MA	- CLASS NUFACTURER TALOG NUMB	MOLDED	AFH	YES NO	 	YES NO	660D		A F H	YES
° ∕]	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	- CLASS NUFACTUREN TALOG NUMB DES.COM	MOLDED RER	AFH	YES NO	 		6600	\$2.6	A	
י קר	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 9 + CI	CLASS NUFACTUREN TALOG NUMB DES.COA	MOLDED R SER /OITIONS	AFH	YES NO	 		G600 BI-DIR.S	# 2. 66	A	YES
	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	CLASS NUFACTURER TALOG NUMB DES.COA	MOLDED BER VOITIONS	AFH	YES NO	 		G600 BI-DIR.S ALLOY6-	EAL RING	A	YES
	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	CLASS NUFACTURER TALOG NUMB DES.COA A. FACE B. FACE	MOLDED BER ALTIONS TO FACE TO CENTER	AFH	YES NO	 		GLOD BI-DIR.S ALLOY6- EDGE.	EAL RING	A	YES
	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	- CLASS NUFACTURER TALOG NUMB DES. (OA A. FACE B. FACE C. FACE	MOLDED SER /QITIONS TO FACE TO CENTER TO CENTER	AFH	YES NO	 		G600 BI-DIR.S ALLOY6-	EAL RING	A	YES
	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	- CLASS NUFACTURER TALOG NUMB DES. (OA A. FACE B. FACE C. FACE D. CLEAR	MOLDED BER ADITIONS TO FACE TO CENTER TO CENTER TO CENTER JANCE	AFH	YES NO	 		GLOD BI-DIR.S ALLOY6- EDGE.	EAL RING	A	YES
	SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	- CLASS NUFACTURER TALOG NUMB DES. (OA A. FACE B. FACE C. FACE C. FACE C. FACE E. CLEAR	MOLDED	AFH	YES NO	 		GLOD BI-DIR.S ALLOY6- EDGE.	EAL RING	A	YES
	SOLENO SOLENO SOLENO SOLENO SOLENO AX. C	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 3 +CI @	- CLASS NUFACTURER TALOG NUMB DES. (OA A. FACE B. FACE C. FACE C. FACE C. FACE C. FACE H. ACTUA	MOLDED	AFH	YES NO	 		GLOD BI-DIR.S ALLOY6- EDGE.	EAL RING	A	YES
A IST	SOLENO SOLENO SOLENO SOLENO ALLATIC ALLATIC	ID COIL VOLT	- CLASS NUFACTURER TALOG NUMB DES. COA A. FACE B. FACE B. FACE C. FACE D. CLEAR E. CLEAR H. ACTUA J. ACTUA	MOLDED MOLDED TO FACE TO FACE TO CENTER TO CENTER IANCE ANCE ANCE ANCE	AFH	VES NO	 		G600 BI-DIRS ALLOY6- EDGE 440C E	EAL RING	A	YES 1
A IST	SOLENO SOLENO SOLENO SOLENO ALLATIC ALLATIC ALLATIC D D D OBS VALVE	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA G +CI C ID VALVE CA ID VALV	- CLASS NUFACTURER TALOG NUMB DES. COA A. FACE B. FACE B. FACE C. FACE C. FACE D. CLEAR E. CLEAR H. ACTU/ J. ACTU/ ER MGER	MOLDED MOLDED TO FACE TO FACE TO CENTER TO CENTER IANCE ANCE ANCE ANCE	A F H P	YES NO #.34.8	 		6600 BI-DIR.S ALLOY6- EDGE. 440C E	EAL RING	A	YES 1
	SOLENO SOLENO SOLENO SOLENO ALLATIC ALLATIC ALLATIC D D D D VALVE VALVE PURCHA	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA 9 +CI @ IN DETAIL NO ID VALVE CA 9 +CI @ IN DETAIL NO ID VALVE CA IN DETAIL NO IN DETAIL NO IN	- CLASS NUFACTUREN TALOG NUMB DES. COA A. FACE B. FACE C. FACE C. FACE D. CLEAR H. ACTUA J. ACTUA ER MEER	MOLDED	A F H	YES NO #.34.8 E_T			G600 BI-DIRS ALLOY6- EDGE 440C E	EAL RING	A	YES 1
^ ∑]	SOLENO SOLENO SOLENO SOLENO ALLATIC ALLATIC ALLATIC D D D D VALVE VALVE PURCHA	ID COIL VOLT ID COIL TYPE ID VALVE MA ID VALVE CA G +CI C ID VALVE CA ID VALV	- CLASS NUFACTUREN TALOG NUMB DES. COA A. FACE B. FACE C. FACE C. FACE D. CLEAR H. ACTUA J. ACTUA ER MEER	MOLDED	4 F HP 7210 FISHE	YES NO #.34.8 E T			G600 BI-DIRS ALLOY6- EDGE 440C E	EAL RING	A	

	N	lon	santo	* PRESSURI	E INSTI	RUMENT		IVISION		LANT	15 3	
	, c	ом	PANY	SPECI	FICATI	ONS		TH NO.	DEPT	OR AREA	SHEE	- I
h	CATIO			L	0		<u> </u>				0	<u> </u>
	strument	NO.			PT-				PT-			<u> </u>
Se	vice		· · · · · · · · · · · · · · · · · · ·	· · ·		RAIR				R. AIR		
					LOW	PRESS	A	·		PRESS	- 4	
			Line No. & Size		<u>V-</u> /	24"	B			11/2 T	白	
PR	cess M			Turnerit		IR				IR		
ľ	L		ting, Record, Control	, transmit		IND .				IND .		
	Mount	ing: F	lush, Surface, Yoke		2"Y	DKE			2" YC	DKE		
	014	ът ·	Size & Type	· · · ·		\checkmark	<u> </u>					
CASE	CHA	RI ·	Range				· · · ·			\leq		
0	ļ			eed								L
	SCA	LE	Size & Type		·		VA				1	
ļ			Range								1	
15	Numb					VE			ON			
ELEMENT		& Unit				DO PSIG				OOPSIG	÷	····· ·· ·
		e Limit				1000556		- <u></u>	0-500/3			
L		ial & T			and the second second	DIFFH	ļ		31655			
(·	PROC		Liquid, Gas, Cond.		1	R. AIR	ļ		COMPI			
5	INP		Min. Norm Press Press	al Max. Press.	0	400	ļ		01	1000	l	
M			Range & Units			MADC			4.201			
SIGNALS	OUTI		To		PIC				PIC -			
			y - Electric, Pneuma			XAM DC				L MAX	· · ·	
			rea Classification		CLI.I	NVII-D			CLI,D	IVII-D		
ER ER			Band %									
175		Reset N	lode			LOW FAST		OW FAST		FAST		W FA
TROI NSMI	Rate				YES	NO	YES	NO	YES	NO	YES	NO
1 N N			al Bypass		YES	NO	YES	NO	YES	NO	YES	NO
			ent Increase nt Output		(INC.	DEC	INC.	DEC		DEC	INC.	DE
			Air Supply Reg.	For mitter)	YES	HO I	YES	NO	YES	HO I	YES	NO
		t Gage	or Special Features	mitter J	TES	1 THO	YES	I NO	TES	110	YES	NO
					1/04		1		T /A		1	
			METER		NON 1/2"1		11		1/2" N		1	
ļ			<u>ss Conne</u> Ss FlG.¢									
			MATERIAI		316			<u></u>	<u>316 s</u> 316 s			
6	001	<u>)</u>	VALENA	~	510	55	· · · · · · · · · · · · · · · · · · ·	<u></u>	510	<u>, , , , , , , , , , , , , , , , , , , </u>		
RK		· · · · ·										
REMARKS					···-··································							
~												
	1		· ·									
	Manuf	acturer	· · · ·		FIS	HER			FISH	ER		
Ĥ	*Cata	log No	•		11510	P-8-4	-22-1	nВ	11516	P-9-4	-22-M	B
PURCH.	P.0.	No.										
Ľ.	Price					, 2 · ·						
	\triangle	CHG	D MFGR 8 155	UED FIPURCH	DC							
	\triangle	DEL	ETE METER, A	DD MODEL NO	RAC		<u>s</u>					
	\triangle	Lin	E No. REV		DC	9-12-78	6				-	
					1	**************************************	\overline{A}					1

	COM	santo	* PRESSUR SPEC	E INST			TH NO.		OR AREA	IS-	·
_	CATION		_	-		<u> </u>	• ••••••••••••••••••••••••••••••••••••	1		2 05	
	trument No.		· · · · · · · · · · · · · · · · · · ·	PT-		<u> </u>	· · · · · · · · · · · · · · · · · · ·		·		
Ser	vice				PR. AIR			+			
5.0	innet No	ling No. 9 Sign	·····	LOW	PRESS	A					
_	cess Material	r Line No. & Size	·····	4"L1	<u>- //2"I</u>	2	······	<u> </u>			
110		ating, Record, Contro	Transmit		IR						
		Flush, Surface, Yoke			IND.	- 24					
	mounting.	Size & Type	; 	<u>e 1</u>		┨────					
ы	CHART	Range			$\overline{}$			<u> </u>			
CASE			peed				1			T	
	SCALE	Size & Type	· · · · · · · · · · · · · · · · · · ·	-		1			·		
	JUNCE	Range				24					
-	Number	(01	NE.	1	··········				
ELEMEN	Span & Unit	S			OOPS16						
Ē	Range Limit	ts			1000 PSIG						
ш	Material & 1	Гуре		3165	SDIAPH						
	PROCESS	Liquid, Gas, Cond			RAIR						
	INPUT	Min. Nori Press Pre	nal Max. Press.	0	400						
	INSTRUMENT				MADC			ļ			
SIGN	OUTPUT	То		PIC-		Ļ		ļ			
-		y - Electric, Pneùr	natic	2400	C MAX	· · ·				·	
		rea Classification		ELI;	DIVII-D					<u> </u>	
55	Proportional										
了탉	Auto Reset I	Viode			LOW FAST		LOW FAST		DW FAST	NO SLO	
CONTROLLER TRANSMITTER	Rate Mode Auto – Manu	I Punnen		YES	NO	YES	NO	YES	NO	YES	N(
8 £		nent Increase		(INC.	DEC	YES INC.	NO DEC	YES INC.	NO DEC	YES INC.	NC DE
-+		d Air Supply Reg.		YES	NO	YES	NO	YES	NO	YES	NC
-+	Output Gage	31/ The suppry neg.	For Xmitter)	YES	NO	YES	NO	YES	NO	YES	NC
	Statement of the local division of the local	or Special Features		123	1 110	123	1 10	123		123	
Ī		R METER		NO	NE	A					
ſ		SS CONN	ECTIONS	1/2"	IPT						
[SSFLGA			55						
		MATERIA			, <u>55</u>						
2											
REMARKS						-					
ļ											
Ļ											
ł								····			
ŀ	······································										
-+	Manufacture	r		EIC	UFD						
÷	*Catalog No	and the state of the		FISI	4 <i>ER</i> 3P-8-	F-11	MP				
~ -	P.O. No.	• •		11.217		6 22	-110				
┺┟	Price					<u> </u>					
-+		D MFGR SI	SSUEN E/BIRCH	DC	6-78	4				1	T
ſ	A DELL	TE METER. A	AD MODEL NO.	RAC	7-6-78	<u>s</u>					1
Γ	A 1,	NE NO. REV	/	NC	9-1278		· · · · · · · · · · · · · · · · · · ·				
_ [Ā 🗌					
\$ 110	5 (10/66)		·								
						1.					

Ψ.

,

- .

	Mor	Isanto		ITIAL F	T		VISION		OR AREA	IS 3 SHEE	
LO	CATION		- JFEC	IFICAL	UN3		•			<u>3</u> of	
Ins	trument No.		en stand.	F	T-20			FT	-21		
Ser	vice				ESSAIR			PROLE	SS AIR		
L		·.			110 VOL			LO PR	HI VOL		
Eq	uipment No. o	r Line No. & Size		V"HP.	1/2"I			4 2 P	-12/2		
Pro	cess Materia	I			41R	-		A	IR	•	
1	Blind, India	cating, Record, Contro	ol, Transmit	BL	IND	4		BLI	ND		
	Mounting:	Flush, Surface Yoke		_ 2"	YOKE		77°	2"	YOKE		
		Size and Type		\sum							
CASE	CHART	Range									
		Drive Spee	d		<u> </u>		<u> </u>				
	SCALE	Size & Type					,				
<u></u>		Range									
		I, Pressure			.ow				ow		
1		iaphragm, Other		DIA	PH.			DI	APH.		
unt	*Span & Un				O"WC		 		O"WC		
	Range Limi	and the second	<u></u>		o"WC				D"WC		
FFERENTIAL	Body Ratin		-		OPSIG_				PSIG		<u> </u>
RE	*Body Mate				165S				655	·····	
FFE	Element M			31	65S.				655		
ō	Wetted Par			31	6SS			31	655		
		Diaph. Length		<u> </u>							
	Fluid Sp.						and the second second				
		Liquid, Gas, Cond.			IR			AI			
S	INPUT	Operating Pressure Range & Units			PSIG				PSIG	·	
SIGNAL:	OUTPUT			4-20 EV	MADC -20				MADC		
S		ly – Electrical, Pne	matic	241	20			24V		·	
		Area Classification			IVII-D	<u> </u>	4	CII-D			
	Proportiona							VII-D			
CONTROLLER	Auto-Reset		<u></u>	NO SI	.OW FAST	NO SL	OW FAST	NOTSL	OWTFAST	NO. SLO	DW F/
<u>S</u>	Rate Mode			YES	NO	YÉS	NO	YES	NO	YES	NO
L N	Auto-Manua	By Pass		YES	NO	YES	NO	YES	NO	YES	NO
8		ment Increase		INC.	DEC	INC.	DEC	INC.	DEC	INC.	DEC
		Air Supply Reg.		YES	NO	YES	NO	YES	NO	YES	NO
	Output Gage	. 3½° Size		YES	NO	YES	NO	YES	NO	YES	NO
		or Special Features	5								
5	SQ	RT ME	TER	NU	NE	1		No.		//	
REMARKS	PROCE		CTION	1/2"	VPT			12"1	IPT		
M	•							ممسوم			
۳	· · · · · · · · · · · · · · · · · · ·			<u></u>		<u> </u>		-			
					11				11-5		
ŀ	Manufacture	ſ		<u>F15</u>	HER	- 20	AA 77	F15	HER	F. 00	M
PURCH.	Catalog No.			115/1	11-4-1	-22-1	בוי	1151	Dr-4	- <i>E</i> -22	-111
a	P.O. No.				1-						
	Price	CA CAPE & CO	CUEDIOUSAU	1.00	1.20						T
DATE		AD MIFG & 15.		DC DC							
REV. DP		ETE METER, 1. LINE NO		RGC		<u></u>					
	121 11111	·		DC :	10 6 10 1	0\					1

	Mor	nsanto	*PRESSUR	E INSTR	UMENT	[/1510H		LANT	15 3	с но. 86
. .	C 0 N	1 P A N Y	SPEC	IFICATI	ONS	TUA	т н NO.	DEPT	FOR AREA	SHEE 4 or	
In	strument No.			PT-	17	· ·		PT-	27	T T	
Se	rvice				CTGAS				CTGAS		
		·	-	<u> </u>			·				
		r Line No. & Size			-3" I			WELL			
Pr	ocess Materia	and the second se			AS				S		
	L	ating, Record, Control,	, i ransmit		IND			BLI		2	
	Mounting:	Flush, Surface, Yoke		2" 40	DRE -	}	~	2" 401			
 ш	CHART	Size & Type		<u> </u>	<u> </u>			\rightarrow	\checkmark		
CASE	UNAN	Range Drive Sp	eed	\vdash			r	\vdash			
-		Size & Type	ccu .	<u> </u>		1	h			A	
	SCALE	Range				<u>4</u>				4	
-	Number	Kange		ON				01	15		
L I	Span & Uni	ts			OPSIG				PSIG -	0-30	3
EMENT	Range Lim				300 PSIG			0-00/	300 PSIG	Ű	<u> </u>
급	Material &				DIAPH		T		DIAFH		
-	PROCESS	Liquid, Gas, Cond.	Vapor		AS				AS		
	INPUT	Min. Norma Press Press	al Max. Press.	0	201	r		0			
S	INSTRUMEN	Range & Units		4-20	MADC	·	. <u></u>	4-20	MADC		4
SIGNALS	OUTPUT	То		PIC.				PI-			
2	Power Supp	ly - Electric, Pneuma	atic		CMAX				C MAX		
	1	Area Classification			NVI-D				IUA-D	e	
ER B	Proportiona	I Band %		\mathbf{N}	/			\square			
	Auto Reset	Mode		_NO SI	OW FAST	NO SLI	OW FAST	NO TSL	OW FAST	NO SLO	W FA
CONTROLLE	Rate Mode	,,		YES	NO	YES	NO	YES	NO	YES	NO
NO NO	Auto – Man	ual Bypass		YES	NÒ	YES	NO	YES	NO	YES	NO
		ment increase ent Output		(INC)	DEC	INC.	DEC	SINC	DEC	INC.	DE
		'd Air Supply Reg.	For	YES	TTO	YES	NO	YES	HO	YES	NO
-	Output Gag	e, 3½~(x s or Special Features	For (mitter)	TES	NO	YES	NO	TES	THO	YES	NO
			~		115	1		1 Ilai	15	A	
		AR METER			NE	21		NON		4	
		SS CONNE		Y2"1 316			•:	1/2"N			
	LAUCE	22 1 LO 4 M	UNP TION			1.00100.0000.00.00		-3/6		······	
10				¢							
REMARKS			<u></u>							·····	
NEW N											
-											
	`										
{							- 18-100 (B)				
	Manufactur			FISH	ER.			FISHE	ER		
PURCH	*Catalog N	0		11510	SP-7-4	-22-N	IB	1:510	P-7-E	<u>-22-M</u>	<u>B</u>
PU D	P.O. No.								1		
-	Price			L		<u> </u>		<u> </u>			·····
		GD MFG 2 155				<u>A</u>					
		V. LINE NO)	00		<u>s</u>					
									- •		
1	(3)					7) .					1

- -

والمعرفين والمراجع

.

e

•

P

, '

		Mon	santo	* PRESSURI				IVISION		OR AREA		CNO.
	00	ATION	PANT	SPECI	FICATI	ONS		ITA NU.	UEPI	UR AHEA	5 01	1
-	-	rument No.			PT.	28	<u> </u>		PT-	29		
		ice				CTGAS				CTGAS		
<u> </u> "	elv	11.6	······		I KOW	CIGNS			TROUG	CIGHE	*	.
<u> </u>		and Maria	Line No. & Size	·		01 7				<u> </u>		
		cess Material	Line nu. & size			<u>- PI-Z</u>				<u>- PI-3</u>		
ļ,			ting, Record, Control,	Transmit		AS				AS		
				Transinit	BL	IND	<u> </u>	· · ·	BLI			
	+	Mounting: F	lush, Surface, Yoke		<u>z" Yc</u>	IKE	ļ		2" 40	KE		
1.		OULD T	Size & Type		$\vdash \searrow$							
CASE	Ž	CHART	Range			\times	ļ	<u> </u>		<u> </u>	 	· · · · · · · · · · · · · · · · · · ·
	기		Drive Spe	ed			ļ				ļ	
		SCALE	Size & Type		-		A				A	
			Range		-		<u> </u>			(<u>4</u>	
HE	-	Number		·	ON	1E			ON			
FI EMENT	Į	Span & Unit	s		0-10	O PSIG-	<u> Ko-</u> :	300		DO PSIG	-(0-	<u>30 ()</u>
Ē	3[Range Limit	S		0-50/	300 PSIG	\sim		0-50/3	DOPSIG		
"	٦Ľ	Material & T	уре		31655	DIAPH				DIAPH		
	Τ	PROCESS	Liquid, Gas, Cond.	Vapor		SAS			6	AS .		
		INPUT	Min. Norma Press Press	l Max. Press.	0				0			
SIGNALS	וונ	NSTRUMENT	Range & Units		4-20	MADL		•	4-201	MADC		
NU NU		OUTPUT	То		PI-				PI-			
10	5	Power Supply	y - Electric, Pneuma	tic		2M AX			24v DC		· · ·	
	F		rea Classification			DIVII-D			<u>111-1</u>			
	1	Proportional	Band %		~					7		í.
LLER	旪	Auto Reset M	lode		NOS	LOW FAST	NO S	LOW FAST	NO SL	OW FAST	NO SLO	WFAS
	Ē	Rate Mode	and constants		YES	NO	YES	NO	YES	NO	YES	NO
NTN NT		Auto - Manu	al Bypass		YES	NO	YES	NO	YES	NO	YES	NO
88		On Measurem			(INC)	DEC	INC.	DEC	(INC)	DEC	INC.	DEC
	_		Air Supply Reg.		YES	NO	YES	NO	YES	NO	YES	NO
-		Output Gage,	3½ ^m (x	For nitter)	YES	NO.	YES	NO	TES	NO	YES	NO
	_	the second s	or Special Features						[
ł	F	LINEA	R METE	R	NO	NE	A		NO	NE	h	
			SS CONNEC		1/2"1				42"N			
			SS FLGAAT			6 55				555		· · · ·
	۲							*				
10	, h											
REMARKS			······································			······						
W												
	١											
		«	· · · · · · · · · · · · · · · · · · ·									
	٢											
	Γ											
	Γ	•										
	T	Manufacturer			FISH	ER.			FISH	ER		
E	. –	*Catalog No.				SP-7-1	-22-	MB			-E-22-	MB
L'A	-	P.O. No.				A			-	A		
6	• –	Price	<u></u>		· · · · · ·					2		
-	T		O MEG & BSV	ED FARIDA	DC	6-78						
	F	A DELE	TE METER, ADI	MODEL NO	R6C	the second s	ß					
	F	$\overline{\mathbb{A}}$					Â					1
	F				1	-'	<u>À</u>				1	1
	-L	(10/66)			1	terre en antier al al						4,

		nsanto	*DIFFERE	NTIAL P			UTH NO.		OR AREA	15- \	PEC NO. 36
LO	CON	I P A N Y						DEP	ORAREA	ы <u>6</u>	EET DF
Ins	trument No.			F7	-22	T		FT	.23	T	
	vice				CTGAS				TGAS	1	
			· · · · · · · · · · · · · · · · · · ·		ESSURI	= ^			RESSUA	12 ~	
Eq	uipment No. c	or Line No. & Siz			-3"I	A			-3" I	2	
Pro	cess Materia	1		G,					45		
	Blind, India	cating, Record, Co	ontrol, Transmit	BL	IND			BLI	ND	A	
	Mounting:	Flush, Surface Y	'oke	2"	OKE ,				OKE		
		Size and Type						\mathbf{N}			
CASE	CHART	Range						\sim	<		
0 J		Drive	Speed								
	SCALE	Size & Type			_	A				$\boldsymbol{\Lambda}$	
	JUNEL	Range			(2		-		2	
	Flow, Leve	I, Pressure		FLOU	J			FLL	w		
1	Bellows, D	iaphragm, Other		DIAPH	RAGM			DIAP	HRAGM		
UNN	*Span & Un	its		0-10	00°W.C.			0-1	00°.U.C		
	Range Limi	its		0-15	o"wc				50 "W.C		
DIFFERENTIAL	Body Ratin	g@60°F		200	OPSIG			2.00	007516		
REN	*Body Mate	rial		316	SS			316	SS		
FE	Element M	aterial	· · ·	316	55			316	55		
<u>P</u> E	Wetted Par	ts Material			55			316			
	Extended	Diaph. Length									
	Fluid Sp.	Gr.									
	PROCESS	Liquid, Gas, T	Cond. Vapor	GA.	s			GAS			
s	INPUT	Operating Pres	sure	50-3	50 PSIG			50-3	50PSIG		
IGNAL:	INSTRUM.	Range & Units		4-20	MADC				MADO		
lGN	OUTPUT				22			Fy-			
		ly – Electrical,			BMAX				C MAX		
		Area Classificati	on	CLIG	<u> </u>			RLI GA	DOVE	l	
Ř	Proportiona					10 10	COW L CAPT				
CONTROLLER	Auto-Reset	Mode	······	╶┼───╲╌└──	OW FAST		LOW FAST		OWFAST	<u> </u>	SLOW F
TRO	Rate Mode		····	YES	NO	YES	NO	YES	/NO	YES	NC
NO	Auto-Manua	I By Pass	<u></u>	YES	X NO	YES	NO	YES	X NO	YES	NC
		ment increase ent Output		INC.	DEC	INC.	DEC	INC	DEC	INC.	DE
		d Air Supply Reg	•	yes	ŇQ	YES	NO	YES	NO	YES	NC
	Output Gag			YES	NO	YES	NO	YES	NO	YES	NC
		s or Special Fea	the second s		115	1		11.2	11	1	
¥S		T METE		NO	NE	2		NO	VE (KI	
REMARKS	TROCE	SS CONN	VECTIONS	1/2"	NPI			1/2"/	Uri		
REI	•						<u></u>				
-					1 = 5				1		
	Manufacture			FISH	- /	<u></u>	14.0	FISH	FER_		2 44
PURCH	Catalog No.			1151 L	r-4-	E-22.	MB	115	DP-4	-2-2	2-11
P	P.O. No.					2					
	Price	IN MEL	the same of the	1 201	()(1	<u> </u>				L.,	
DATE			E ISSUE F/PUR			A	······				
2	1) DEL		, ADD MODEL N	OKAC							
REV.	ARE	V LINE	No	DC	9-12-78	<u></u>		·			
	/3					23					

.

۶,

	CON	nsanto Mana y		NTIAL I TRUME IFICAT	NT	E	UTH NO.		OR AREA	IS-3 SHEL	
	CATION		-1	1 = 7	771		19 -20-20-20-20-20-20-20 -20-20-20-20-20-20-20-20-20-20-20-20-20-		020	<u> 0</u>	
h	strument No.		·····		33 A				33B	<u> </u>	
1-se	rvice		· ···		<u>d. Gas</u> Press				GAS	<u> </u>	
E	wingant No. 4	or Line No. & Size				E HZ		11/1-1	RESS 6-3 I	-1-	
-	ocess Materia				P43"2 GAS	-10	7	DPAD	GAS	16	
<u> </u>			Transmit		IND	11-		BL		<u> </u>	
		Flush, Surface Yoke	1, 11013411	2.	YOKE	PA_			YOKE		
1	moonting.	Size and Type		<u> </u>	JONE	1		1ª	JUKE		
ير الا	CHART	Range						$+ \sim$			
CASE		Drive Spee	d	<u> ></u>	\checkmark		1	<u> </u>	\mathbf{X}^{-}		1
		Size & Type			\frown	·					1
	SCALE	Range	·····			J					
	Flow, Leve	I, Pressure		FLO	o u	1		FLO	w		
		iaphragm, Other		DIA		1	*******	DIA			
it	*Span & Un		· _ · · · · · · · · · · · · · · · · · ·		00°W.C	:[0-100			
UNIT	Range Lim	its			50" W.C				o"wc		
FFERENTIAL	Body Ratin				O PSIG				D PSIG		
ENI	*Body Mate			316				316			
FER	Element M			316		1	-,	316			
DIF		ts Material		316		1	—, <u></u>	316	SS	·····	
		Diaph. Length				1		-010			
	Fluid Sp.					1		1			
		Liquid, Gas, Cond.	Vapor	GA	s	·		GA	5		
	INPUT	Operating Pressure		3501		· ·		350	PSIG		
SIGNALS		Range & Units			MADE	1			MADO		
IGN	OUTPUT			FY-	33A			FY-	33B		
S		ty - Electrical, Pneu	matic	24 V.				24	VDC		
		Area Classification	<u></u>	CLIG	RDDirz	ŧ		CLIG	RD DIVI		
S.	Proportiona			Δ		1		Λ			
CONTROLLER	Auto-Reset	Mode		<u> </u>	LOW	NO S	_OW FAST	+	OW FAST	NO SL	OW
LR0	Rate Mode			YES	NO	YES	NO	YES	NO	YES	i
NO.	Auto-Manua			YES	<u>NO</u>	YES	NO	YES	K NO	YES	
		ment Increase ent Output		INC.	NEC	INC.	DEC	INC	DEC	INC.	[
		Air Supply Reg.		YES	Na	YES	NO	YES	Ma	YES	
	Output Gage			YES	NO	YES	NO	YES	NO	YES	<u> </u>
		s or Special Features		No	NE	1-		NO	15		
S		ST METE			NPT	K1			NPT		
REMARKS	FROCK	SS CINNEL	IONS	12	NEL			12	Nri		
RE					·····		······································				
	Manufacture	:[FISI	YER .	1		FISH	ER		· · ·
£	Catalog No.			1151	DP-9	-E-22	-MB	1151	DP-4	-E-21	2-1
PURCH.	P.O. No.				1			1	1		
	Price			£	<u></u>				7		
ш		D MFGR & IS									
DATE		ED MODEL NO		RGC	7-5-78	\triangle					
REV. 1		V LINEN		D.C.	9-12-78						
21				1		AT					

,

¢

۰.

.

ð

M	onsanto	*DIREC *PRESSUR	T OPER			VISION		LANT	* SP IS-	EC NO. 42
C I	омрану	+	VALVE		AU	TH NO.	DEPT	OR AREA		ET
Valve No.			PCV-	15	1	-	PCV-	16		
Service				PAIR	1			S CONTL		
					-		1		1	
Line Number	& Size	·····	14.1	P	E		111	Z A	1 25	
Process Mat	erial	······································	COMPR	L AIR		·····	INSTR		100	
	Flow Temperature	· · · · · · · · · · · · · · · · · · ·	300				the second s	0°F	t	
Operating	Working Pressure (PSIG	Inlet)		PSIG				PSIG		
Data	Valve to Close Against	(PSIG.)		PSIG	[PSIG	1	
	Sp. Gr. e Flow Temp.			0					[
Design	Normal Flow		6	5					[
Conditions	Max. Flow		22	2			2	2		
Gase 60°F	Units: SCFM, SCFH, GI	PM or #/Hr.	55	EM			50	FM		
14.7 PSIA	Fluid		LIQ. (G	AS STM	LIQ. G	AS STM		STM	LIQ. G	AS S
Liquid@	Inner Valve Travel, % e									
Flow Temp.	△P Cv (Calc.) @ D	esign Cond.					5-15			
Tion Temp.	Calculation Sheet No.						-			
	*Valve Body Size		<u> </u> "				1	11		
	Valve Port Size			8"			1/2			
	Body Rating & Conn. Siz	2e	300#1	<u>95A "</u>			300*,	1"NPT		
1	Body Material		CARBOI	V STEEL			CARBOI	V STEEL		
	Trim Material									
Valve	Type Inner Valve		QUICK				QUICK			
Specifi-	Seats (Double or Single)	·· <u>···································</u>	Ð	DP	SP	DP	(SP)	DP	SP	D
cations	Valve actuator (Diaph or		DIAPHU		DIAPH	PISTON	DIAPH	*	DIAPH	PIST
1	Matl of Const (Diaph or I		NEOPF	RENE			NEOPI	RENE		
		olating Valve				<u> </u>				<u> </u>
	Packing									
I	Guiding		SKIRT TI		SKIRT T	OP BTM	SKIRT T		SKIRT T	OP E
Spring Settin			7.	5 PSIG		·		F PSIG		
*Spring Rang				00 PS16		1		ONPSIG		
	Pressure Valve			CLOSES		CLOSES		CLOSES	OPENS	CLO
Type of Regi	استعداد والمراجع الألالي والمتعادي وومروق في المتعد الم	·····	SELF-OF	EKATING			SELF-	OPK		
Accesso	ries or Special Features									
¥ – – –										
REMARKS										
₩	· · · · · · · · · · · · · · · · · · ·									
	······									
S .			MARTLON	N	+-FLO	*	-FLOW		-r.c	-w-
DIMENSIONS			Ē		Ē	- /	1		Ĩ,	5/
UEN I	·····		-1	1_	-7	1		1_	-7	
ā ·				7 * -		→	+	4 1	*	7 *
Se Manufact	urer		FISH	ER			FISHE	R		
Manufact *Catalog P.O. No. Price	No.		67				62	0		
ਊ P.O. №.										
2 Price							<u>Ľ</u>	7		
	ISSUED FOR	PURCH		6-78	<u>A</u>					
		FORPURCI	1		<u>s</u>					
	REV. LINE	No.	DC	T-12-7 K	\triangle					
	,		1	i	$A \downarrow$				1	

المستحرر ومراه

ſ

. •

) +FLO	MEASURING	DIVISION	PLANT	*SPEC 1 15- 45
L	Monsante	γ *E	LEMENT CIFICATIONS	AUTH NO.	DEPT OR AREA	SHEET
-	LOCATION					
	Instrument No.		FE-20	· · · · · · · · · · · · · · · · · · ·	FE-21	
F	Service		PROCESS AIR	· · · · · · · · · · · · · · · · · · ·	PROCESS AIR	·
F		· · · · · · · · · · · · · · · · · · ·	HP/LV	•	LP/H.V	
_	Process Material		AIR 1"-MP-1/2"I	· · · · · · · · · · · · · · · · · · ·	AIR H"-LP 1%'E	
_	Line No.	······································			4-LP-12-1	
-	Line Size, Schedule	Elemine Desen D	1" SCH 80	,	4°504 40	
		Flowing Press. Pr	1000 PSIG		350 PSIG	
		Flowing Temp Tr	300°F		300°F	
	Upstream	Sp. Gr. e Tr	1.0	•	1.0	
	Operating	Viscosity CP = Tr Sp. Gr. = 60°F	0.024		0.024	
	Conditions	Supercompr. Factor - Tr	1.0	<u>2</u>	1.0	
		Steam Quality, %				
		Stean Superheat, F				
	Flow at Base	Liquid, Gas or Steam				
Γ	Conditions	Minimum Flow	AIR		AIR	
	60F & 14.73 PSIA	Normal Flow	0		300	
	Barometric Pressure	Maximum Flow	100		3000	
	at Location	Units of Flow	5CFM	····· · · · · · · · · · · · · · · · ·	4000 SCFM	<u> </u>
	In. Hg.	Meter Range	0-150"00	·····	0-150'WC	
\vdash	*Size & Type - W.N., S.		I"HONED SECT.		4"WELD NECK	
	Rating & Facing		600#RF. ASA		200#RF.ASA	
	Material - Flange & R.T.	J. Ring or Gasket(1)	CAREON STEEL		CARBONSTEEL	
Ĩ	Taps - Type, Size & One		1 3/8" NPT		1/2"NPT	· · · · · · · · · · · · · · · · · · ·
F	Type of Plate (R2.3 Std	منهمين بالأوافير إمري بمعد بسبعه معدمه مكملان بسمعه معده	CONCENTRIC		CONCENTRIC	
	Plate Material & Thickn	CSS	316 55.1/8"		20455 V8"	
	Pipe ID (D), In.		0.957		4.026"	
13	Diffice ID (D), In.		0.36312		2.59145	
1.	wo hallo (D)		0.37944		0.64368	
	Meter Range – Inches W	ater Dry	100"WC		100"WC	
lê	Type of Meter		DRY d/P		DRY, d/P	
	Drain or Vent Hole		NONE		NONE	
	Chart or Scale Range					
L	Chart Factor		· · · ·			
L	Calculation Sheet No.	4 ml 10				
	TYPE ORIFI		F-50		520	
2	BASKETS, THI	CKNESS/MAT'L	116"ASBESTOS		YIE"ASPESTOS	
DEMADUC	<u> </u>		<u> </u>			
l ü	All orifice handles to be	stamped on un straam				· · · ·
	side with "Inlet", bore d		+		······	
	rating, instrument numbe		+			•
ŕ	Manufacturer		DANIEL		DANIEL	
13			H-835		JORW	
I di la	*Catalog Number Purchase Order Number					
Ľ	Price		<u> </u>			
Γ	A ISSUED	FOR PURCH	DC 6-27-78 6	2		
051		<u></u>	<u>/</u> s			

*

÷

·

.

.

	FE-20						•					•	F00	<u>40 P</u>
. 				• •						. . .				5/17
		•			•	. `				•		:		
	PIPE	. ORIFICE	AND :	METER	DATA	•	• • • ••					÷	•	
		ACTUAL P DRAIN OR				•		•		0.	95700		ICHE	
·		TYPE OF							·		LANGE			~d
Ś		MAX. DIF	F.	+	BETAR	ATIO)	•	# 0	RIF.	DIAN	4		
N U.S.		IN. H20					· •.	•			CHES			,
RINTED		50.000			0.44						2845			
đ		<u>100.000</u> 150.000			0.37						6312_ 2915			
	•	200.000			0.32				•		06.45		· · ·	······
	•	250.000			0.30					0.2	9031			
		300.000			0.29						7775			
	······································	<u> 350.000</u> 400.000			0.27	046					6 <u>787</u> 5883			
.	liDc 1	REAM COND									·······			
••••••				· · ·	· · · ·		-	: "• •		•	· · · · · · · · · · · · · · · · · · ·			ì
	•	FLUID NAN FLUID CON		ÍN	•		·		HI	PRES	S_AIR GAS			
	····	MAXIMUM P	FLOW						<u>-</u>		9.996	SC	FH	
	<u>1</u>	RATIO OF			MAXIMUM	FLO	W	·· •			83300 7 . 594		EH	
		NORMAL FL	<u>.uw</u>							247				
				47112F	· · ·			÷				•	GF	
	· · · · · · · · · · · · · · · · · · ·	FLOWING FLOWIN	TEMPER	ATURE RE							30 <u>00</u> 5.000	_DE		
	· · · · · · · · · · · · · · · · · · ·	FLOWING F FLOWING F	TEMPERI PRESSUI	RE						101	30 <u>0•0</u> 5•000 02400	DE PS CP	IA	
	•	FLOWING FLOWING F VISCOSITY DENSITY	TEMPERI PRESSUI 1 AT FLU	RE		ONS			•	101	30 <u>0•0</u> 5•000 02400 61000	DE PS CP	IA ZET:	
	·	FLOWING F FLOWING F	TEMPERI PRESSUL AT FLUI	RE MING (F AND	1 ATM				•	1019 • 0.1 3.0	30 <u>0•0</u> 5•000 02400 61000 07640	DE PS CP LB	IA ZET:	
	•	FLOWING FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA	TEMPERI PRESSUL AT FLO AT FLO ACITY I	RE MING (F AND	1 ATM				•	1015 0.1 3.0 0.1	30 <u>0•0</u> 5•000 02400 61000	DE PS CP LB LB	IA ZET:	
		FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV T NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
		FLOWING FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV T NORMA	L FL	OW		•	1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
		FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW		•	1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW		•	1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1015 0.1 3.0 0.1	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	
	* CONP	FLOWING T FLOWING F VISCOSITY DENSITY A DENSITY A HEAT_CAPA PIPE REYM	TEMPERI PRESSUL AT FLO AT 60 L ACITY L NOLDS 1	NE F AND RATIONNO. A	1 ATM CP/CV NORMA	L FL	OW			1019 • 0.0 3.0 0.0 1.0 1260	30 <u>0.0</u> 5.000 02400 61000 07640 39000	DE PS CP LB LB	IA ZET:	

.

FE-	21		•••		•		F0040 P
				· ·		÷ •	5/17/
			4.				
•	PIPE, ORIFICE,	AND METER	DATA	7	· ·		
		PE DIAMETER VENT DIAMET					INCHES INCHES
	TYPE OF OI	RIFICE TAPS			F	LANGE	
/	MAX. DIFF.	•*	BETA RATI	o	* ORIF.		
	IN. H20	•		•	IN	CHES	
	50.000		0.73709			6752	
	100.000		0.64368		2.5	<u>9145 =</u> 7718	
	200.000		0.55416			3105	
	250.000		0.52700		2 1	2169	
	300.000		0.50551		2.0	3518	
	350.000		0.48787	· ·	1.9	6417	
	400.000		0.47301		1.9	0434	
	UPSTREAM CONDIT	TIONS		1997 - 1994 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -		54. -	
•	FLUID NAME	- ·	•	•	LO PRES	S AIR	v
	FLUID COND	DITION	· · · ·	, ,		GAS	
	MAXIMUM FL	UW NURMAL TO M	AVTALIM ET	04		<u>9,938</u> 75000	SCFH
	NORMAL FLO		ANIMUN TL			9.938	SCFH
	EL ON ING TH	MDEDATIOE					
······································	FLOWING PH	MPERATURE_	•			3 <u>00+0</u> 5•000	
	VISCOSITY				0.	02400	СР
	DENSITY AT	FLOWING C	ONDITIONS	<u> </u>	1.	29700	LB/FT3
		T 60 F AND CITY RATIO,				07640 3 <u>9000</u>	LB/FT3
······································		LDS NO. AT		LOW		492•9	
· · ·	COMPUTED BY PRO	ISDAM . TAR		CODE -		·	
		JORANY TABL	L_CONTROL	<u> </u>	<u></u>	• 	······
·····						·,	
<u> </u>	· - · · · · · · · · · · · · · · · · · ·			·· .	· · · · · · · · · · · · · · · · · · ·		
				<u>,</u>	· · · · · · · · · · · · · · · · · · ·		
·			-	•	· · · ·		
		the second second			5 - 3		
· · · · ·							- 3×
	·····						
					·		
			•				

· · · ·

¢

Managada			DIVISION	PLANT	SPEC NO.	
Monsanto	IN	STRUMENT			15-45	
COMPANY	SPEC	IFICATIONS	AUTH NO.	DEPT OR AREA		REV
CATION					3_or	3
trument No.	<mark>an de la de la com</mark>	FE-23	A	1		
vice		PRODUCT	- <u>A</u>			
		GAS	· · · · · · · · · · · · · · · · · · ·			
uipment No. or Line No. & Size		6"PG-3"I	4		· . ·	
icess Matérial		PROD. GAS				
PE SCHEDULE		6" SCH40	· .			•
ENTURI TUBE MA	TL.	1/4 CR 1/2 MOI	y A			
INTURI TUBE LE		2.FT814.	<u>(</u>			
HROAT DIAMETER		BY VENDOR				
HROAT MATERIAL		304 55				
AX, FLOW		5000 SCFM	-			
DRM FLOIN		3500 SEFM		· · · · ·		
N. FLOW	•	Ø				
NSITY@60°E& 14.7. NSITY@NORM_FLOW					· · · · · · · · · · · ·	
NSITY @ 600F2 14.7	PSIA	0.0668 #FT	3 3			
NSITY @ NORM FLOW	COND	0.27254/6	3 73	1	······································	
PER COMP FACTOR		1.	4			
AS MOL. WT.		25.3	/3			
SCOSITY CPE F.T.						
TA RATIO						
P INCHES WATE	R	100				
	•			·		
ORMAL FLOW CON	DITIONS		L			
LOWING TEMP		750°F				<u>.</u>
LOWING PRESSURE		125 PS16 5000 SCFM	6/3			
1AX FLOW		5000 SCFM	12			
ENSITY #/FI		0.2725		·		
· · · · · · · · · · · · · · · · · · ·			·			
BNORMAL FLOW CON	DITIONS;		·			
LIWING TEMP		· 750°F				
LOWING PRESSURE	-	47 PS16	73			
1AX FLOW.		5000SCFM	1			
ENSITY + #/F	<u></u>	0.1205		·	<u>,</u>	
	·				: ·	
· · · · · · · · · · · · · · · · · · ·			<u> </u>			
TAXIMUM PRESSU	RE	600 PS16	4-/3		<u> </u>	
AXIMUM TEMPE	KHIURE	950 °F				
		ļ • •				
PROVIDE TSET CA	1/11/4-	INIS FAR	In DAAA	I CA di A		
INCOVIDE ISEI CA	LUVLAI	IUND FOR	IOKITIAL FLOU	CONDITION	<u> </u>	
11 multipal uses						
Manufacturer		VICKERY-SIMMS	· · · ·			
Catalog No.						
P.O. No.						
Frice	P.C.11	Den's	A R	·	The lat	.t
A ISSUED FOR PU	KC#	DC 6-78	Rev. LINE N	0.1	DC 9/1	47
A CORRECTIONS		RGC 629-78	<u>}</u>			
A CORRECTIONS DENSITIES & CONS		D.C. 7-26-78	£3. E		1	

-	 N 	Aonsanto	0		MEASU	RING		DIVISION	PLA	NT	18 4	ec no. 4_5
	C OCATIO	0 M P A N 1	Y I		EMENT FICATI	DNS		AUTH NO.	DEPT OF	AREA	SHEE 4 of	
	strument				FF	337	┎╼╼╢╍╼╍		FE	23 R	170	
	ervice	NU.		······	Reosuer		·		Robert			,
		······································		and the state of the second	<u></u>		-					
P	rocess M	aterial		· · · · · · · · · · · · · · · · · · ·	Rosse			· · · · · · · · · · · · · · · · · · ·	PROCUCT (AS	A	
	ine No.					-3" <u>I</u>		<u>v</u>	11/2" PG-	3''I	. [4	
Ĺ	ine Size;	Schedule			11/2" 5			<u>//</u>	11/2" SCH		14	
			home and the second second	Press. P _f		50 PS			350 P			
			Flowing	ry e Tr		50°F			750 °	<u>´</u>		
		Upstream	and the second s	CP e Tr	· · · · · ·				· ///			
	·	Operating	the second se	040F \$ /ATM	- 0	67			. 06	7		
		Conditions		pr. Factor e Tr		, <u>11. 1</u>					***	
L	2		Steam Qu									
CERVICE	<u> </u>			perheat, F								
10	۱ I	Flow at Base		ias or Steam	GA	<u>s</u>			GAS			
	601	Conditions = & 14.73 PSIA	Minimum		0				0			
		metric Pressure	Normal F Maximum		240				2400			
	1	at Location	Units of		561				SCFH			
	.	In. Hg.	Meter Ra			jos sch	FH H		0.9600 5			
	*Size	& Type - W.N., S				DNECI		1	17. WELD		13	
. 9	*Rati	ng & Facing				RFA			600 # RI		1	
•		ial – Flange & R. T.			316 5	STEEL		·····	316 551	EEL		
Ľ	and the second second	– Type, Size & Orie		.3 Std)		NPT	·		1/2 "NP			
	Type of Plate (R2.3 Std) Plate Material & Thickness			NTRIC			CONCEN					
	Pipe ID (D) In		316		-		316 5	<u> </u>	• • •			
PI ATE	Orific	Pipe ID (D), In. Orifice ID (d), In.			735	5	3	. 587.	3	7/3		
		latio (B)		· · · · · · · · · · · · · · · · · · ·		157		<u> </u>	. 39/2		<u> </u>	<u>ــــد</u>
+ 12	Meter	Range - Inches V	later Dry	1		0" W.C	<u> </u>		0.100			
Jan	Type	of Meter			DRY	D/P			DRY 1	2/0		
	Drain	or Vent Hole			Noi	1.5	_	· · · · · · · · · · · · · · · · · · ·	NONE			
		or Scale Range				*			ļ			
-		Factor Itation Sheet No.			1.r.,				6	//		
Ì		TYPE OR	IFICE	PATE	SIMPLEX MOCEL	500	•		SIMPLEXA MODEL 5			
	OK	IFICE PLA			MS,	3/6.55			MS, 3/6			
REMARKS			10 00	<u></u>								
EMC] <u> </u>				•			·	•			
14	All Of	ifice handles to b							ļ			
		with "Inlet", bore						······································				
		acturer		MIDELID	DANI	<u> </u>	+		have -			
		log Number			705D		. 1/2	\	TO505		-A-	<u></u>
+ USUI	Purch	ase Order Number	·		<u>105 p</u> .	.		<u></u>	10305		<u> </u>	
	Price											
	\square	ISSUED 1			627-78		$\underline{\mathbb{A}}$	REV. LIN	ENO		DC	1/12
DFV		REVISED	Cord	CTED	7-26-72		À			· · · · · · · · · · · · · · · · · · ·		
		REV FIDE I	D = D	ORIFRE	7-31-78		À					
L.	107 (10)	REVISIO			9-5-78	D.C						
		SOT IT ENTER FI	FING SPEC		RADIUS							
		•										
				1.4 1.4								

;,

ž

- / F	E-33A+ 338		e Martin I. A.	E0040 P
	OW VOLUME HIGH PRES	SURE PRODUCT GAS		9/5/
1-				
For the second	PIPE, URIFICE, AND	METER DATA		
	ACTUAL PIPE DI	AMETER	1.50000	INCHES
	URAIN OR VENT		0.0	INCHES
	TYPE OF ORIFIC	E TAPS	FLANGE	
	MAX. DIFF.	* BETA RATIO	* ORIF. DIAM	
	IN. H2U		INCHES	
	50.000	0.40168	0.69252	
	100.000	0+39157	0+58735	
·····	150.000	. 0.35449	0.53174	· · · · · · · · · · · · · · · · · · ·
•	200.000	0+33063	0+49595	
	250.000	0.31319	0.46979	
	300.000	0.29961	0.44941	
	350.000	0.28858	0.43287	
	400.000	0.27971	0.41956	
	UPSTREAM CONDITIONS			· · · · · · · · · · · · · · · · · · ·
	FLUID NAME		LV-HP PR GAS	
	FLUIU CUNUITIU	۶.	GAS	
	MAXIMUM FLUW		9599.996	SCEN
· · · · · · · · · · · · · · · · · · ·		L TU MAXIMUM FLOW	0.70000	
	NORMAL FLOW		6719.990	SCFH
	FLOWING TEMPER	ATURE	750.0	DEG F
· · · · · · · · · · · · · · · · · · ·	FLOWING PRESSU		364.700	
	VISCUSITY		0.01000	40
	DENSITY AT FLO	WING CONVITIONS	0.71100	
	UENSITY AT 60		0.05700	
	HEAT CAPACITY	RATIO: CP/CV	1.30000	
	PIPE REYNULDS	NU. AT NURMAL FLOW	189701.0	
	COMPUTED BY PROGRAM	• TABLE CONTROL CODE	=]	
	. ·			· · · ·
	ـــــــــــــــــــــــــــــــــــــ			
		· · · · · · · · · · · · · · · · · · ·		
		· · · · · · · · · · · · · · · · · · ·		
		·		

۰·

ta kin

.

-,

C O M P A N Y	Flowing Press. Pr Flowing Temp Tr Dens, 74 D Ts Viscosity CP = Tr Dens, ty D GOP Supercompr. Factor = Tr		AUTH NO.	DEPT OR AREA <i>FE22</i> <i>PCoDVCTEAS</i> <i>B[*] FG-3["] I</i> <i>125 PSIG</i> <i>750[®] F</i>	
Service Process Material Line No. Line Size, Schedule Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr			PCODVCTEAS B" PG-3" I 125 PSIG	
Service Process Material Line No. Line Size, Schedule Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr			PCODVCTEAS B" PG-3" I 125 PSIG	A
Line No. Line Size, Schedule Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr			125 PSIG	
Line No. Line Size, Schedule Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr			125 PSIG	
Line Size, Schedule Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr			125 PSIG	
Upstream Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr				
Operating Conditions	Flowing Temp Tr Dens, 74 D Tr Viscosity CP = Tr Dens, 74 D 60°F Supercompr. Factor = Tr				
Operating Conditions	Density O Ts Viscosity CP = Tr Density O 60°F Supercompr. Factor = Tr				
Operating Conditions	Viscosity CP . Tr Density @ 60°F Supercompr. Factor = Tr			272*/FT	3 A
Conditions	Density @ 60°F Supercompr. Factor = Tr			- AIDIFA	- 751
	Supercompr. Factor @ Tr	t		.067 TET	-3 A
Flow at Base		 -	*****	1001 11	_ <u>76</u> 5
Flow at Base	Steam Quality, %			++	
₩ Flow at Base	Steam Superheat, F		·····		
	Liquid, Gas or Steam			GAS	
Conditions	Minimum Flow			0	
60F & 14.73 PSIA	Normal Flow			210,000	
Barometric Pressure	Maximum Flow				
at Location				300,000	
In. Hg.		•			
*Cine & Tupe MIN C		μ. ·			
*Detice & Type - W.N., S.	.0., Scro., van Stone	<u> </u>	·		
Vatorial - Flance & P.T.	Ping or Caskot(1)	<u> </u>		600+ ANSI	<u>A</u>
Tona Tuna Size & Orig		<u> </u>			-6
	ويتفكر ويتجاهد المرجب ويتبارك والقائل والمتحد والمتكافية				
	1622	· · · · · · · · · · · · · · · · · · ·			
Pipe ID (D), In.					5
					2
1 0/11 8280 1 25 1	Inter Due			.65785	
Meter Range - Inches h	rater Dry				
		· · · · · · · · · · · · · · · · · · ·			
		· · · · · · · · · · · · · · · · · · ·		NON E	
,		· · · ·			:
and the second					
					2
					A
ORIFICE PLATE	SEAL UNIT			113, 31655	
		· · · · · · · · · · · · · · · · · · ·	·····		
	· · ·				
All offlice handles to b	· · · · · · · · · · · · · · · · · · ·	<u> </u>			<u></u>
	er and plate material	<u> </u>		+	
		· · · · · · · · · · · · · · · · · · ·		705-05	
			<u> </u>		
					-+
A DEVISED	CORRECTED		and the second sec		+
	ICADDEFFT A	D.C. 19-5-78 16			1
	In. Hg. *Size & Type – W.N., S *Rating & Facing Material – Flange & R.T. Taps – Type, Size & Oriof Type of Plate (R2.3 Std Plate Material & Thickr Pipe 1D (D), In. Orifice ID (d), In. d/D Ratio (B) Meter Range – Inches V Type of Meter Drain or Vent Hole Chart or Scale Range Chart Factor Calculation Sheet No. $TYPE O R \cdot F \cdot c$ <i>ORIFICE PLATE</i> All orifice handles to b side with "Inlet", bore rating, instrument numbr Manufacturer * Catalog Number Purchase Order Number Price All SSUED	In. Hg. Meter Range *Size & Type – W.N., S.O., Scrd., Van Stone ⁽¹⁾ *Rating & Facing Material – Flange & R.T.J. Ring or Gasket ⁽¹⁾ Taps – Type, Size & Orientation (R2.3 Std) Type of Plate (R2.3 Std) Plate Material & Thickness Pipe 1D (D), In. Orifice 1D (d), In. d/D Ratio (β) Meter Range – Inches Water Dry Type of Meter Drain or Vent Hole Chart or Scale Range Chart Factor Calculation Sheet No. TYPE ORIELS PLATE SEAL UNIT All orifice handles to be stamped on up stream side with "Inlet", bore dia, nom pipe 1D, flange rating, instrument number and plate material Manufacturer * Catalog Number Purchase Order Number Price Δ 155 UED For PUPLH	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	In. Hg. Int Sof From *Size & Type – W.N., S.O., Scd., Van Stone ⁽¹⁾ * *Rating & Faxing * Material – Flange & R.T.J. Ring or Gasket ⁽¹⁾ * Taps – Type, Size & Orientation (R2.3 Std)) Plate Material & Thickness • Pipe ID (D), In. • Orifice ID (d), In. • Meter Range – Inches Water Dry • Meter Range – Inches Water Dry • Type of Meter • Drain or Vent Hole • Chart Factor * Calculation Sheet No. * Type $\mathcal{O} R:Fire S P_{L, R, T, \mathcal{E}}$ • All orifice handles to be stamped on up stream • side with "Inlet", bore dia, nom pipe ID, flange • Maugetturer • * Catalog Number • Purchase Order Number • Price // SSUED For PUPCH DC, L-17.78	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

. ···

۰

į,

ES 103 (10/66) (1) ENTER PIPING SPECIFICATION FOR RADUS ON PIPE TAPS

•

19 L				
. /	E-22			E0040 P
	IGH VULUME LOW PRES	SSURE PRODUCT GAS	· · ·	9/5/
1		· · · · · · · · · · · · · · · · · · ·		1
<u> </u>	PIPE, UNIFICE, AND	METER DATA		· · · · · · · · · · · · · · · · · · ·
	ACTUAL PIPE DI	TAMETEN	6.06500	INCHES
	URAIN OK VENT		0.0	INCHES
	TYPE OF ORIFIC	CE TAPS	FLANGE	
	MAX. DIFF.	* BETA RATIO	* ORIF. DIAM	
	IN. H2U		INCHES	
	50.000	0.75072	4.55311	
	100.000	0.65785	3.98984	
	200.000	0.56711	3.43950	
	250.000	0.53979	3.27384	
	300.000	0.51820	3.14291	
	400.000	0.50050	<u>3.03552</u> 2.94510	
	400.000	0+40559	2.94310	
	UPSTREAM CONDITIONS	5		
	FLUID NAME		HV-LP PR GAS	
······································	FLUID CUNDITIC	N	GAS	
	MAXIMUM FLUW	AL TO MAXIMUM FLOW	299999.338	SCFH
	NORMAL FLOW	L TO MAXIMON (LOW	209999.438	SCFH
	FLOWING TEMPEH	ATURE	750.0	DEG F
	FLOWING PRESSU	JRE	139.700	PSIA
	VISCOSITY		0.01000	
		WING CONDITIONS	0.27200	
	DENSILY AT 60 HEAT CAPACITY		1.30000	LOTTIS
	PIPE REYNOLUS	NO. AT NORMAL FLOW	1466154.0	
*	COMPATED BY DEDLEDAN	A. TABLE CONTROL CODE	- 1	
	COMPUTED BI PROGRAM	TI TABLE CONTROL COOL	<u> </u>	
`			د 	
· <u> </u>	an a		······	
•		<u></u>		
	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	

24 2					
Monsanto	TEMPI	ERATURE SMITTER	DIVISION	PLANT	SPEC NO. IS 46
	SPECI	FICATIONS	AUTH NO.	DEPT AREA	SHEET REV
OCATION					Zor_
nstrument No.		TT-24	TT-25	TT-26	
ervice			Product Gas		
quipment No. or Line No. & Size		CP-1	CP-1	CP-1	,
rocess Material					
RANSMITTER					
TYPE		TC/I	TC/I	TC/I	
RANGE		0-1000°F		0-1000°F	
INPUT SIGNAL		T/C TYPEK	T/C TYPEK	T/C TYPEK	
DUTPUT SIGNAL		4-20 MADC	4-20MADC	4-20 MAD	
OUTPUT TO		<u>TI-24</u>	TI-25	TI-26	
INPUT OUTPUT ISOL	TION	YES.	YES	YES	
POWER SUPPLY		115V,60HZ	115V, 60 HZ	1151 60 HZ	
ELEC AREA CLASS		GEN PURP	GEN PURP	GEN PURP	
TYPE MOUNTING		RACK	RACK	RACK	
HERMOCOUPLE ELEMI	ENT		17		
ISA TYPE		K	Cha Maria	K	
WIRE MATERIAL & G	AJGE	Chr Alume	Chr-Alumel 911	CHR-ALOMEL 9"	
ELEMENT LENGTH					
INSULATOR TYPE		Ceramic	Celamic	CERAMIC	
SHEATH MATERIAL GROUNDED TIP		3/655 YES	31655	316 55	
GROUNDED 11P		755	YES	YES	
man meren ilean					
ONNELTION HEAD		SCREWED	COPTUES	SCREWED	
COVER TYPE	0000 C	V2"NPT	SCREWED YL"NPT	K" NAT	
THERMOCO UPLE END TH		1/2"NPT	V2" NPT	1/2" NPT	
CONDUIT END THREAD			YES	YES	
GROUND CONNELTIO	N	YES	1=3	755	
Turpalaulti .					
THERMOWELL		31655	31655	316 55	
MATERIAL		1/2" NPT	V2"NPT	K" NPT	
CONNECTION SIZE . R.	STING	31655	3/6 55	316 55	
PROCESS CONNECTION N ROCESS CONN. SIZE -1	ATERIAL	3/A" NDT	3/4 "N PT	74"NAT	
LENGTH "U"		3/4" NPT 71/2"	71/2 "	71/2 "	
EXTENSION		11	4*	4"	
LALENDIDH					
CLESSORIES					
TYPE AC-141 RET FIL	759	NO	No	NO	
	+				· .
2 Manufacturer		FISHER	FISHER	FISHER	
Catalog No.		LSIII		LSIII	
2 Manufacturer 2 Catalog No. 2 P.O. No. 2 Price			LS 111		
Price					
	l				
			<u> </u>		
			<u>s</u>		

1

•---

2 9 9

										·		
[Monse	into		CTRON		-	UMP	4 JJ Y		PLANT	SF 1S	EC NO. 46
			IRA	NSDUC	EK	<u> </u> -	AUT	H NO.	DEP	T AREA		CET INES
LO	CATION		SPEC	IFICAT	IONS						_ <u></u>	F
ويستعب ا	trument No.	A COLD MANAGEMENT COMPANY		77-		1			TT-	31		32
Sen	vice	· · · · · · · · · · · · · · · · · · ·			SS AIR	1				ESS AIR		D. GAS
				HP/						HV -	1	
Equ	uipment No. or Lin	e No. & Size										•••••••••••••••••••••••••••••••••••••••
Pro	cess Material			A	IR				A	HR	GA	5
	Blind, Indicaling,				/XMTR				BLINE	XMTR	BLIN	D/XMTE
1		n, EMF/I, Res./I,	etc	EMF/	I (TC)				EMF	II (TC)	EME/	T(re)
	Mounting - Flush			RACK	MTD	·			RACI	K MTD	RAC	e Mro
CASE		& Type	· · · · · · · · · · · · · · · · · · ·	ļ		I						
S		1 & Units	T-OUTPUT			·					[
		ge Limits INPU			ES		 .			ES	1	= 5
		e on Electrical Fa e on Burnout Fail		UP UP	CDOWN			DOWN	UP UP	0000	UP	DOWN
	ub or nown scal	T/C, RB, Olher	uie		YPE J		L	DOWN		Keowa		(CO)
	Measurement	*Span & Units			00°F	+		·····		VPE J		YPEJ
	Input	From		0-5 TE-		1			D-S	<u>100° F</u>		500° F
¥	Instrument	Range & Units	·····		DCAM			[:]		OMADL		BZ LOMADO
SIGNAL	Output	To		7-20 TI-					TI			-3Z
	Power Supply -	·			V, GOH	2				GOHZ		,60H2
	Etectrical Area C	the second s			PURP					PURP-	GE	I FURP
H	Туре			(TC)	CONTRACTOR OF A DESCRIPTION OF A DESCRIP	T	c I	RESIST	CTC)	and the second		RESIST
	*Wire Material &	Gauge			CONSTAN		· 1			CONSTAN		- CONSTRA
EMENT	Length			(7" .	1				9"	91	1
EW	Insulator Type			CERF	AMIC				CERF	MIC.	CERI	AM IG
Ш	I.S.A. Type			J-GRON	INDED					UNDED	J-GR	OUNDED
	*Resistance Eler					I						-
	Resist, Bulh Dia.	and Material				<u> </u>						•
	Well Material				<u>655</u>	ļ				GSS	316	
	SS N Constru- Size & Size & United		·····		20UPLG					COUPLG	PIPE	
	A S Materia			31655			<u> </u>		3/4"-		3/4" -	
WELL	·····	read or Flange "U	7	51632	12"		L		31625	1/2."	31655 71/2 "	1
	Female Thread S				4NPT				1/2"-"	4NPT	14 "	4 NPT
	Lagging Extensio				INE					ONE		NE
	Stamping								<u>[N</u>	UNC_		<u>NG</u>
	Nipple & Union L	ength "A"		NC	NE	1				ONE	Non	VE
1	Thermocouple En			1/2"-12				·	12"-1	4NPT	12	4 NPT
SSERBLY	Conduit End - Th			1/2"- 14			•			HNPT	1/2 "-1	+NPT
12	Ground Connectio	n			ES			1		ES.	Ye	
				1								
\vdash					· · · · · · · · · · · · · · · · · · ·				•			
					1.					11-10		
PURCHASING	Manufacturer			Elsi	HER_				FIS	HER	Fish	
CH	Catalog No. P.O. No.			15	[][5///	- 451	1)
FUR	Price											
	<u>A</u>				r			l				1
EX.	Δ					$\overline{\mathbb{S}}$		· · · · · · · · ·				
REV. DATE	3		·		[]-	$\overline{\mathbb{A}}$						
3	<u>A</u>											
		3-2111:-	121	4	۰ ۰۰۰۰	Serviced.						

(5-2111:12)

	Monsanto		SURE GAUGE	DIVISION	PLANT	*SPEC NO. 15-49
	COMPANY	SPEC	CIFICATIONS	AUTH NO.	DEPT OR AREA	SHEET RI
LO	GENERAL NOTES:		<u>I</u>		1	OF
	GENERAE NOTES,		* PT 12			
. .			* PI-13 PI-14		PI-10	
	·		F2-14			
		v	ş			
					·	
			;		++	
			•	·····	- <u> </u>	· · · · · · · · · · · · · · · · · · ·
				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	
						· · · · · · · · · · · · · · · · · · ·
	*Coor 9 Halle	· · · ·				
	*Span & Units		0-160,519		0-500 PSIG	
E	Type Element Material	<u></u>	Bourdon		BOURDON	
EMENT			Bronze		BRONZE	<u> </u>
ELE	Socket Material		Bronze	·	ERONZE	
	Connection Size & Type	·····	1/2"NPT		Y2"NPT	
	Connection Orientation		Bottom 41/2 11	· · · · · · · · · · · · · · · · · · ·	80TTOM 41/2"	
	*Dial Size Dial Color Scheme	<u></u>				
	Case Material (Style Case)		BIK on white SS :	·····	BLK ON WHITE SS	
	Ring Type	<u></u>	Bayonetlack		RAYONETLOCK	
CASE	Mounting Type				1 1	
Ö	Crystal Material		STEM Glass		STEM GLASS	
	Micrometer Zero Adjustment		yes	·····	YES	···· ····
	Safety Release Type		yės		YES	· · ·
ώĿ	Movement Material		<u> </u>		570.	
MOVE-	Guaranteed Accuracy		1/2%		1/2 90	
-	Body Material	·····	1			·····
Ŀ	Diaphragm Material					
IEMICAL SEAL		Connection				
CH ES	Proc. Temp °C AMB. Te					
°ŀ	Process Connections Size & Type					
ł	Manufacturer's Ty, ~ & Model					······
	Accessories & Special Features		1.			
	······································			· · · · · · · · · · · · · · · · · · ·		
REMARKS	4					
R	······································	······································				
I	Manufacturer		Ashcroft		ASHCROFT	
Ŧ	*Catalog No.		1320B		1320B	
PURCH.	P.O. No.		· · · · · · · · · · · · · · · · · · ·			
ā	Quantity Required		ļ			
	Price		I		<u> </u>	· · · · · · · · · · · · · · · · · · ·
H	<u> </u>			<u> </u>		
REV. DATE			<u>s</u>	·		
>						
μr				1		

ī 2

2 4

.

6

- -.

Monsanto	INSTRUMEN	т		PL	ANT	SPEC N	0.
monsarco	SPECIFICATI		AUTH NO.	DEPT	AREA	IS 47 SHEET	R
		1			[·	1.	0
LOCATION	PRESSURE SW			<u> </u>	<u> </u>	OF	<u> </u>
Instrument No.	<u>Ps</u>	5-13	0				
Service	Instr	Air Fall		<u> </u>	·		
Equipment No. or Line No. & Size		TA		<u>+</u>			<u> </u>
Process Material		mstr Air					
GENERAL:							
Oper. Temperature	Am	biert					
Temp. Limits	0-	bient 150°F					
Pressure Rating	150	Upsig					
Housing Material	1/47	MINUM					
Diaphragm Material	Bu	na-N					
Calibration Spring	Ste	e/					
Mounting	Base						
Low Pressure Conn.	1/4",						
High Pressure Conn.		-					
Electrical Conn.	3/4	"NPT					
SWITCH:							
Туре	5/	PDT	· <u>····································</u>	l			
Micro Switch No.		Z-R		· · · · · ·			
Contact Arrangement				ļ			
Rating Volts-Amps		1-15A					
Operating Range	10-1	180 ps19					
Dead Band @ Min. Se	t Pt. ///	Spsig					
Dead Band @ Max. Se	<u>t Pt.</u> 3	PSIg	· · · · · · · · · · · · · · · · · · ·	+			
Set Point				<u> </u>			
On Meas. Inc. Switc	n op.	ens AIK		+			
Elec. Area Class.				<u> </u>			
Conduit Conn.	5/4	"NPT					
			······································				
ACCESSORIES: Environmental Switc				1			
Environmental Swite.							
Explosion-Proof Hou	sing						
· •							
ت		"o" P					
Manufacturer Catalog No. P.O. No. Price	Jatic	-C"-R1+9 V-K5	·······				·
H Catalog No. P.O. No.	6N/	<u>x-42</u>					
Price				<u>}</u>		·····	
	PS-18 RGC	6-28 🛕	1	1	1	1 1	
HA CHED PS-17 to, A LINE No.	DC	9-12-78 5					
OL CINC NV.							

CLS 30 1-74

	Monsanto	* PRESS	URE GAUGE	DIVISION	PLANT	*SPEC NO. 15-49
ļ	COMPANY		IFICATIONS	AUTH NO.	DEPT OR AREA	SHEET R
LC	CATION					OF
	GENERAL NOTES					
	ر میں دور میں بنان میں میں وہ میں میں اور	·	* PI-13 PI-14		PI-10	
			PI-14			
L_			·			
<u> </u>		SON				······································
<u> </u>						
		EN	· · · · · · · · · · · · · · · · · · ·			
├				· · · · · · · · · · · · · · · · · · ·		<u> </u>
<u> </u>		INST RUMENT				
 	< 2					
	•					
	······································					·····
<u>}</u>	*Span & Units	· · · · · · · · · · · · · · · · · · ·	0-1600519		0-500 PSIG	
١.	Туре		Bourdon		BOURDON	
EMENT	Element Material		Bronze		BRONZE	
	Socket Material	·····	Bronzel		ERONZE	····
ᆸ	Connection Size & Type		1/2"NPT	· · · · · · · · · · · · · · · · · · ·	Y2"NPT	
	Connection Orientation		Bottom		BOTTOM	
	*Dial Size		41/2"	· · · · · · · · · · · · · · · · · · ·	4 1/2 "	
	Dial Color Scheme		BIK on white		BLK ON WHITE SS	
	Case Material (Style Case) Ring Type				RAYONETLOCK	
CASE	Mounting Type		Bayonetlack	······		
õ	Crystal Material		STEM Glass		STEM GLASS	
	Micrometer Zero Adjustment		yes		YES	
•	Safety Release Type		yes		YES	
Ш́Н ХХ					570.	
MOVE-	Guaranteed Accuracy		5.5. 1/2°/0		1290	
	Body Material				\wedge	
۲. ۲	Diaphragm Material					
	Fill Liquid Clean	out Connection				
£	Proc. Temp °C AMB.	Temp °C		<u>l</u>		
	Process Connections Size & Typ	e	$ / \rangle$		\downarrow \downarrow \downarrow	
	Manufacturer's Ty, & Model		<u> </u>		<u> </u>	
8	Accessories & Special Features		· ·			
REMARKS	· · · · · · · · · · · · · · · · · · ·					
REN						
	Manufacturer		Ashcroft		ASHCROFT	
	*Catalog No.		1320B	·····	1320B	
PURCH.	P.O. No.					
2	Quantity Required					
	Price					
Ψ	<u>A</u>					
REV. DATE	\triangle					
Ň	2					
-	/3			2		

- 4

y

Monsanto		* PRE	SS	URE GAUGE	DIVISION	PLANT	*SPEC NO. 15-49	
COMPANY				FICATIONS	AUTH NO.	DEPT OR AREA	SHEET	
LO	CATION				•			
	GENERAL N	OTES:	Γ	T T				
	· · · · · · · · · · · · · · · · · · ·		•	· PI-13		PI-10		
		······		• PI-13 PI-14				
		:			······································			
			NOS.					
			Έ					
			HE					
			INSTRUMENT					
			ž					
					n	_		
				<u> </u>	······································			
		•						
							·	
	*Span & Units			0-160ps19		0-500PSIG		
Е	Type Element Material			Boundon		BOURDON		
EMENT	Socket Material			Bronze		BRONZE	· · · · · · · · · · · · · · · · · · ·	
ELE	Connection Size & Type			Bronze 1/2"NPT		ERONZE Y2"NPT		
	Connection Orientation			Bottom	· · · · · · · · · · · · · · · · · · ·	BOTTOM		
	*Dial Size	<u>.</u>		41/2"		41/2"		
	Dial Color Scheme			BIKonwhite		BLKONWHITE		
	Case Material (Style Cas	e)		SS :	····	55		
	Ring Type			Baymetlack		RAYONETLOCK	·····	
CASE	Mounting Type			STEM		STEM		
	Crystal Material			Glass	· · · · · ·	GLASS		
[Micrometer Zero Adjustm	ent		yes		YES		
	Safety Release Type			yes		YES		
ЧЧ И	Movement Material Guaranteed Accuracy			5.5, 1/2°/0		570.		
δÄ	فتتها والمستعدين ويستخلف فتستعلم والمستعدين ستعيد			1/2 %		1290		
	Body Material					\mathbb{N}		
CHEMICAL	Diaphragm Material				·			
SEA	Fill Liquid	Cleanout Connection		X		- +		
5	Proc. Temp °C	AMB. Temp °C			<u>_</u>			
-	Process Connections Size					1/		
	Manufacturer's Ty, & Ma Accessories & Special Fe							
ş	necessories a special re	5414153					· · · · · · · · · · · · · · · · · · ·	
REMARKS					·····	1		
RE								
						1		
	Manufacturer			Ashcroft		ASHCROFT		
	*Catalog No.			1320B		1320B		
PURCH.	P.O. No.							
٩	Quantity Required							
_	Price							
REV. DATE	<u>A</u>			4	2			
S				<u></u>				
1. P				6	A		1 1	

. X

ية ومنظمرة مانا م ه

2	P= 6		Monsanto	THEF	NDICATIN	RS -	DIVISION		IS 5/
					IER/JOWE			DEPT OR AN	IEA SHEET
			OCATION		CIFICAT		9174	<u> </u>	or
			GENERAL NOTES:		TI-	13		TI-35	
	1 1	\vdash			•				
	· ·	-		{					
• •		\vdash							
•	1				So and a second				
	1		· · · · · · · · · · · · · · · · · · ·						
					E				

		F							
		\vdash							
		\vdash							
		-		{					
	1	Г	Туре	······································	BI-M			GAS	
			Span & U.u.ts		50-	550°F		200-1000	נ
	· ·			Color	5"	EKOWWH		412" BKON	WH
	1	ER			3	1655	····	31655	5
		NOME	Actuation			ETAL		695	
	>-	122	Connection Size & Type Stem Material		Y2"M			1/2"NPT 31655	
)	1	E	Stem Position			AR		REAR	
		{	Stem Length				<u></u>	9	
	· ·	L	ORIENTATION			ANGLE		EVERYAN	
	1		Well Material			FEEL		CISTEE	
	1	ļ	Process Construction	· · · · · · · · · · · · · · · · · · ·	SCRE	WED	<u></u>	SCREWE.	
	1		Connection Size & Rating Material		3/4			34"	
		١.,				1/2"		C, STEEL 41/2"	
	And 4 -	딭	Length Below Thread or Flange "U" Female Thread Size		3	14"		44"	
		Γ.	Lagging Extension "T"			3″		3″	
				Material	YES	C.S		YES C.S	
			Stamping						
	1		THERMOWELL ALLOY ENGR.M					3/1 111	
	1		ALLOY ENGR.M	OULL+	-14-260	<u>L-0472</u>		34-3852-04	77
	l	1¥	· · · · · · · · · · · · · · · · · · ·						
		REMARKS	· · · · · · · · · · · · · · · · · · ·		-				
	1								
	2	\vdash	Manufacturer		ASHC	PACT		ASHCKOF DURATEM	5
	5*		*Catalog No.		SOE			600B	~
		PURCH.	P.O. No.		1000	**			
		đ	Quantity Required						
			Price]				
		μ	<u>A</u>						
		. DATE		·····			<u>}</u>		
		REV.					the second s		
		K \$ 10	<u>/3)</u> H (10/86)			L	<u>ن ا</u>		I
	-								
					•				
			بماديمونا بالمام معرفهم بجفا فالباصف فم						ي جود موجو

• •

. .

.

•

.

I

• •

<u>او</u>

•

. . - -.

· •

Monsanto	••••••••••••••••••••••••••••••••••••••			PLAI	łT	SPEC NO. IS 52
	SPECI	FICATIONS	AUTH NO.	DEPT	AREA	SHEET REV
LOCATION	RELI	SURE-VACUUM			i en p	OF
Instrument No.		PSV-1				in the second
Service		COMPRESS.	EDAIR		• • • • •	
Equipment No. or Line No. & Size		V-1 AIR	RECEIVER			
Process Material		350 PSIGA /	R			
Valve Size	· ·	1×2				
Source Of Relieving	Press.				*******	· · · ·
Source Of Relieving			······································			
Normal Operating Te		3000 F	•		-	
Normal Operating Pr		0-350 PST	G			
Factory Set Pressur		360 PS:	IG			
Factory Set Vacuum						
Capacity of Valve		1409 SCFM	@ 1070			
Capacity Required						
Thru Valve		750 SCF1	1			
Orifice I.D. Require	A	0.12359.3				· · · · · · · · · · · · · · · · · · ·
prifice I.D. Select	e ú	0.196 53,1				
MATERIALS OF CONSTRU						
Body						
Trim						
Seat Inserts						
Weatherhood						
Type Inner Valve						
· · · · · · · · · · · · · · · · · · ·		·				
					··	
Connections			i			
INLET		1" 300#RF				
OUTLET		2" 150# RF	FLG			
RFMARKS						
						<u>`</u>
		· · ·				·····
			· · · · <u> </u>			
					····	
		·····				
					<u> </u>	
••						
					·····	
Wanufacturer Catalog No. P.O. No. Price		Farris				
Catalog No.		26EAL2		·		
P.O. No.				·······		
		· · · · · · · · · · · · · · · · · · ·	A 1			·] .
			<u>1</u> 5	.		
8						
			<u>6</u> 7			
$\frac{1}{CS} = \frac{1}{6} (11.73)$		1	2	·····		

Monsanto	• •			PL	ANT	IS 52	
	SPECIFICATIONS		AUTH NO.	DEPT	AREA	IS 52 SHEET	R
OCATION	PRESSURE-VACU RELIEF VALVE	JUM			ł	2 OF	10
nstrument No.	<u>RELITER VALVE</u>	/•2		+	<u>l</u>		<u>.</u>
ervice	INST I				····		
				1			
quipment No. or Line No. & Size	Air PRO	A RF	CEUEP	1	.		
Process Material	INST A	Aire		<u> </u>			
Valve Size	1/2	x 3/4		<u> </u>			
Source Of Relieving		<u>~ 11</u>		<u>†</u>			
Source Of Relieving				<u> </u>			
Normal Operating Ten		٥F		1		· · · · · · · · · · · · · · · · · · ·	
Normal Operating Pre		S PSIC	3	1			
Factory Set Pressure		PSIC		1			
Factory Set Vacuum		`		1			
Capacity of Valve	178 SC	FM @	10 %				
Capacity Required				1			
Thru Valve	22	SCFM					
SEAT DIAM.	1,	12"					
MATERIALS OF CONSTRU							
Body		RONZE		· · · · · · · · · · · · · · · · · · ·			
Trim	BI	RASS					
Seat Inserts							
Weatherhood	CAS	TIR	N				
Type Inner Valve	FLAT	DISC					
SPRING	CARB	son s	TEEL				
Connections							
	1/0 1/ 1/	DT N	ALE				
INLET	3/11 1		ALE EMALE			·····	
<u>OUTLET</u>		<u>FI</u>					
				·			
*********				· · ·			
······································							
·							
l							
		6		· · · · · · · · · · · · · · · · · · ·			
Manufacturer Catalog No. P.O. No. Price	FARRI	2					
Catalog No.	1875					····	
P.O. No.							
	R6C 7-7	-78 1				1.1	
$ \begin{array}{c} \mu & \underline{(0)} & $	Roc P	- 18 <u>/</u>	·				
							_
₩ 🛣			·				
<u>CS-6(11-73)</u>		<u>C</u>	-				

Monsanto	INSTRUMENT	DIVISION	PLANT	SPEC NO. 15- 91	
COMPANY	SPECIFICATIONS	AUTH NO.	DEPT OR ARCA	SHEET	
LOCATION	· · · · · · · · · · · · · · · · · · ·			OF	
Instrument No.	PAL-10		PAHL-17		
Service					
	•				
Equipment No. or Line No. & Size					
Process Matérial					
LOCATION	·		•		
LASE NO.	UA-101		UA-101		
POSITION	· / /	· · · · · · · · · · · · · · · · · · ·	6		
CARD SPEC.				······	
PYPE, CONTACT, ANALOG	DEV ANALOG		ANALOG		
NPUT FORM			·		
CONTACT			- <u> </u>		
LARM ON OPEN, CLOS	ED	1			
ANALOG			20100		
SET PT NO.1	4.0 V DC		3.0 VDC	····	
LARM ON RISING, FAI	-LING FALLING		FALLING		
SET PT NO.2		````			
LARM ON RISING, FAI			-		
DEVIATION	·r \				
ET PT (VOLTAGE DIF			-		
NAME PLATE	WHITE		WHITE		
INE			HI-LO PRESSURS		
INE 2	PRESSUR	¢ =	PRODUCT GAS	<u></u>	
LNE 3	Air		TO INCINEERDA	0	
INE 4	HEADER	2			
OPTIONS			++	· · · · · · · · · · · · · · · · · · ·	
FIRST OUT SEQUEN	CE YES		YES		
DISCRETE OUTPUTATES					
ZIGCIGATE OUTIVIE (CO			+		
		•			
<u> </u>					
· · · · · · · · · · · · · · · · · · ·					
` %				•	
Manufacturer	FISHER		FISHER		
E Catalog No.	B4		A4		
Manufacturer Catalog No. P.O. No. Price					
		A A			

Monsanto		TOULCUT	DIVISION	PLANT	SPEC NO. 15 91
		TRUMENT	AUTH NO.	DEPT ON AREA	SHEET RE
	SPEC	IFICA HURS			
LOCATION				1 24 11 2 2 4	OF
Instrument No.	 	PAL -18	·	FAHL-20	· · · · · · · · · · · · · · · · · · ·
Service					
		•			
Equipment No. or Line No. & Size					·
Process Material					
LOCATION					
CASE NO.		UA-101 12		UA-101 Z	· · · · · · · · · · · · · · · · · · ·
POSITION	<u> </u>	16	•	<u> </u>	
CARD SPEC.		CONTACT		ANALOG	
TYPE, CONTACT, ANALOG	DEV	CONTACI		FIN HLOOP	
INPUT FORM				· · · · · · · · · · · · · · · · · · ·	
CONTACT		OPEN .			
ALARM ON OPEN, CLO	2512	UFEN .			
ANALOG SET PT NO.1	····	······································		4.8VD6	
	1 1 1576	<u>├</u>		RISING	
ALARM ON RISING, EA	L-ING		· · · · · · · · · · · · · · · · · · ·	2.2 VDC	· · ·
ALARM ON RISING, FA	LIING			FALLING	
DEVIATION	LLING			1 1 66 / 10 00	
SET PT (VOLTAGE DI	EE \				
NAME PLATE				1	
COLOR		WHITE		WHITE	······································
LINE				Hi-LO FLOW	
LINE 2		PRESSURE		HILO FLOW HP/LV PROCES	S
LINE 3	······	INSTRUMENT		Air To	·
LINE 4		AIR	· ·	INCINERATOR	
OPTIONS					
FIRST OUT SEQUEN	ICE	YES		YES	
DISCRETE OUTPUTSTES				,	
		•	· · · · · · · · · · · · · · · · · · ·		
×					
•			•	1	
`````					
- · · · · · · · · · · · · · · · · · · ·					
· · ·					
<u>`</u>					
					· · · · · · · · · · · · · · · · · · ·
Manufacturer       Y       Catalog No.       Y       P.O. No.       Price		FISHER		FISHER	
Catalog No.		J4		A4	
2 P.O. No.			•		
		······		L	
<u>ш</u>			<u>}</u>		
A D	,		2		
REV. DATE		<u>(</u>	<u>}</u>	·	
		6	<u>}</u>		

an an the State of St

**.** 

Monsanto		STRUME	NТ	DIVISIO	N	PLANT	IS 91
COMPANY		IFICAT		AUTHN	0.	DEPT ON AREA	SHEET
		an ion i	10113		-	· · · · ·	
LOCATION				,l	<u></u>		OF
Instrument lip.		FAH	L-21	l		TAL - 24	<u></u>
Service							••••••••••••••••••••••••••••••••••••
		<u> </u>	•				·
Equipment No. or Line No. & Size							
Process Material		ļ	······				·
LOCATION		· ·					1
CASE NO.		UA-	101			UA-101	
POSITION		3	·	·			
CARD SPEC.				Į			· · · · · · · · · · · · · · · · · · ·
TYPE, CONTACT, ANALOG	DEV	ANA	LOG	ļ		ANALOG	
INPUT FORM						<del>`</del>	
CONTACT	. <u> </u>	[	· · · · · · · · · · · · · · · · · · ·				
ALARM ON OPEN, CLOS	ED						
ANALOG							
SET PT_NO.I			B V D C			2.8100	
ALARIA ON RISING, EAL	-LING		INC			FALLING	
SET PT NO.2			VDC				
ALARM ON RISING, FAI	LLING	FALL	ING				
DEVIATION		<u> </u>					
SET PT (VOLTAGE DIF	<u>F)</u>	ļ					
NAMEPLATE		ļ					
COLOR		WH1	<u>TE</u>			WHITE	
LINE		H1-20	FLOW				
LINE 2	<del></del>	LP/H	PROCESS			O TEMP VELL No. 1	
LINE 3		Air		-	<u> </u>	VELL No. 1	
INE 4		INCIN	ERATOR		··		· · · · · · · · · · · · · · · · · · ·
OPTIONS	· · · ·	1/100				1.5.	
FIRST OUT SEQUEN	- <u>F</u>	YE	<u>&gt;</u>			YES	
DISCRETE OUTPUTFIES	<u>L'IPHIBIL</u>	ļ <u>_</u>					
		į		•			
<b>1</b>							
		ļ	·				
	•	<u> </u>		·····			
				··· <u> </u>			
	<u> </u>						
							·
		·					
•	<u>.</u>	F	+ +3				
9 Harufactura		FISH				B-4	·····
Manufacturer						D-4	
22 Manufacturer 24 Catalog No. 29 P. G. No.		<u> </u>					
Manufacturer Ver Catalog No. P.O. No.		A		•			······
Y     Caldog No.       Y     P.O. No.       Price     Price				A T		·	
						·	
						<u> </u>	

Monsanto	. INSTI	RUMENT	DIVISION	PLANT	SPEC NO. 15- 91
COMPANY		ICATIONS	AUTH NO.	DEPT OH AREA	SHEET
LOCATION					or
Instrument No.		TAL-25		TAL-26	
Service				<u> </u>	
•		•			
Equipment No. or Line No. & Size					
Process Material					
LOCATION				•	
LASE NO.		UA-101		UA-101	
OSITION		10		-11	
CARD SPEC.					
TYPE CONTACT ANALOG	DEV	ANALOG	· ····	ANALOG	
NPUT FORM	· · · · · · · · · · · · · · · · · · ·				
CONTACT			· · · · · · · · · · · · · · · · · · ·		·····
LARM ON OPEN, CLOS	ED .				
ANALOG			· · · · · · · · · · · · · · · · · · ·		
SET PT NO.1		2.8VDC	· · · · · · · · · · · · · · · · · · ·	2.8YDC	
LARM ON RISING, EAL	1 1116	FALLING		FALLING	·····
SET PT NO.2		/ H L L / 10 G		FALLINE	······································
SET PT INVIC					
ILARM ON RISING, FAL				{	· · · · · · · · · · · · · · · · · · ·
DEVIATION					
ET PT(VOLTAGE DIE	+)			-	
NAMEPLATE		WHITE		11111	
OLOR		WHITE		WHITE	· · · · · · · · · · · · · · · · · · ·
INE I		Truis -		I. TEND	
INE Z		O TEMP VELL NO. 2		LO TEMP WELL NO.3	
INE 3	/V	JELL IVO. C		WELL IVO.3	
INE 4			· · · · · · · · · · · · · · · · · · ·		
OPTIONS					
FIRST OUT SEQUEN	CE	YES		YES	
DISCRETE OUTPUT, TES	T_INHIBIT]				
		·	•		· ······
	······		······		······
· •			· · · · · · · · · · · · · · · · · · ·		
				1	
				i	
	· ·			· · · · · · · · · · · · · · · · · · ·	
1	· ·		······································		
·					
2 Manufacturer				EISHER	
Manufacturer Cata'op No.		15HER H-44		F 15#ER B-4	
Manufacturer Calalog No. P.O. No.		15HER B-4		F 15 HE/R B-4	2
Manufacturer Catalog No. P.O. No. Price	F	 15НЕК 15-4		F 15HER B-4	
Catalog No. P.O. No. Price	F			<i>F 15 HER</i> B-4	
				<i>FISHER</i> <i>B-4</i>	
				<i>FISHER</i> <i>B-4</i>	
				<i>F i S H E P B</i> - 4	
				<i>FisHEP</i> <i>B</i> -4	
				F 15HER B-4	
				<i>F</i> 15 <i>HER</i> <i>B</i> -4	
				<i>F iSHER</i> <i>B</i> -4	

4

Ċ

ç

. . . . .

.

•

ò

INSTRUMENT     INSTRUMENT       COMPANY     SPECIFICATIONS       LOCATION     INSTRUMENT       Instrument No.     INSTRUMENT       Service     INSTRUMENT       Instrument No. or Line No. & Size       Process Material       LOCATION       LOCATION       UA-101						•
Service     Expinent Ro. or Line Ro. & Size       Precess Material     UA-101       LOSC ATION     UA-101       CARD S.P.E.C.     CONTACT ANALOG, DEV.       CONTACT ANALOG, DEV.     AWALOK       CONTACT ANALOG, DEV.     OPEN       ALARM ON OFEN, CLOSED     OPEN       ANAROS,     SET. PT NO.1       ALARM ON RISING, ENLLING     DEV.MICO       SET PT NO.2     ALARM ON RISING, ENLLING       DEV.MTION     DEV.MTION       SET PT NO.2     WHITE       MARGET N. ATE     WHITE       COLOR     WHITE       LINE L     ZOTEN FORS       LINE L     ZOTEN FORS       LINE L     ZOTEN FORS       LINE S     INCO       LINE S     SET DISCRETE OUTFUT/TEST INHIBIT       DEVINS     SET DISCRETE OUTFUT/TEST INHIBIT       SET DISCRETE OUTFUT/TEST INHIBIT     SET DISCRETE OUTFUT/TEST INHIBIT       SET OUT SEQUENCE     YES       SET OUT SEQUENCE     YES       SET OUT SEQUENCE     SET A       SET OUT SEQUENCE     SET A <td< th=""><th></th><th>ТЗИ</th><th>RUMENT</th><th></th><th>DEPT ON ARCA</th><th>SHEET</th></td<>		ТЗИ	RUMENT		DEPT ON ARCA	SHEET
Earlinent No. or Line No. & Size Precess Statema LCSC ATTION LAGAE NO. CARD S PEC. ZYPE CONTRACT ANALOG, DEV. AWALOE CONTACT ANALOG, SET. PT NO.2 ALARM ON CREME, ANALOG, DEV. AWALOE SET. PT NO.2 ALARM ON RISING, EALLING SET. PT NO.2 ALARM ON RISING, EALLING SET. PT NO.2 ALARM ON RISING, EALLING COLOR LINE 1 COLOR LINE 1 COLOR LINE 2 COLOR LINE 3 COLOR LINE 4 CONTACT INHIBIT COLOR LINE 4 CONTACT			TAL-32		[ AAH - 1	<u> </u> 
Press Material     U.A.101     U.A.101     U.A.101       CARDS S PEC.     YEC. GONTACT ANALOG, DEV.     AUALOC     CONTACT       TNPUT FORM     OPEN     CONTACT     CONTACT       CONTACT     ANALOG     OPEN     OPEN       ALARM ON OFEN, CLOSED     OPEN     OPEN       ANALOG     SET PT NO.3     ANALOG       ALARM ON RISING, EALLING     OPEN     ALARM ON RISING, EALLING       DEVIATION     SET PT NO.2     ANALOG       LINE PLATE     U.H.17E     H.CO       COLOR     U.H.17E     H.CO       LINE 1     ZO-TEMP     IN       LINE 2     ROUGHTGRS     BLOG       LINE 4     PLOUENCE     YES       OPTIONS     FIRST OUT SECUENCE     YES       PIRST OUT SECUENCE     YES     YES       DISC RETE OUTIVIT/TEST INHIBIT     OPTIONS     IN       Immodute     BLAC     BLAC       Immodute     BLAC     JA	Service					
LICATION CREE NO. CARD SPEC. ZYEC, CONTACT ANALOG, DEV. ANALOG CARD SPEC. ZYEC, CONTACT ANALOG, DEV. ANALOG CONTACT ALARM ON OFEN, CLOSED ANALOG SET PT NO.] ALARM ON REING, ENLING SET PT NO.] ALARM ON REING, ENLING DEV NATION SET PT NO.2 ALARM ON REING, ENLING SET PT NO.2 ALARM ON REING SET PT NO.2 SET PT NO.	Equipment No. or Line No. & Size					
CARD S. PEC.     VA-101     VA-101     VA-101       CARD S. PEC.     AWALOG     CONTACT CONTACT CONTACT       TYPEC CONTACT ANALOG, DEV.     AWALOG     CONTACT       CONTRCT     ALARM ON OPEN, CLOSED     OPEN       ALARM ON OFEN, CLOSED     OPEN     OPEN       ALARM ON, RISINS, EALLING     SET PT NO.1     ALARM ON, RISINS, EALLING       SET PT NO.2     ALARM ON, RISINS, EALLING     SET PT (VOTAGE DIFF)       NAME PLATE     WHITE     HICO       COLOR     WHITE     HICO       LINE 1     ZO TEMP     IN       LINE 2     RODUCTORS     BLOG       OPTIONS     INE     INC.CO       LINE 3     INC.EXPLANE     INC.CO       LINE 4     Traingentation     INC.CO       OPTIONS     INC.EXPLANE     INC.CO       INE 4     INC.EXPLANE     INC.CO       OPTIONS     INC.EXPLANE     INC.EXPLANE       INE 5     YES     YES       DISCRETE OUTSCE     YES     YES       INC.EXPLANE     INC.EXPLANE     INC.EXPLANE       INC.E     INC.EXPLANE     INC.EXPLANE       OPTIONS     INC.EXPLANE     INC.EXPLANE       INC.EXPLANE     INC.EXPLANE     INC.EXPLANE       INC.E     INC.EXPLANE     INC.EXPLA				· · · · · · · · · · · · · · · · · · ·		
CARD_SPEC.     ANALOG       TYPE, CONTACT, ANALOG, DEV     ANALOG       CONTACT     CONTACT       ALARM ON OPEN, CLOSED     OPEN       ANALOG     OPEN       SET PT NO.J     ALARM ON BISING, EALLING       ALARM ON BISING, EALLING     SET PT NO.Z       ALARM ON RISING, EALLING     SET PT (VOLTAGE DUFF)       NAME PLATE     WHITE       COLOR     WHITE       LINE 1     ZO TEMP       LINE 2     PRODUCTIONS       LINE 4     ST Incineents       OPTIONS     SET PT SEQUENCE       SET OUT SEQUENCE     YES       DISCRETE OUTFUT/TESTINHENT     SET SEQUENCE       SET OUT SEQUENCE     YES       DISCRETE OUTFUT/TESTINHENT     SET SEQUENCE       SET OUT SEQUENCE     YES       SET OUT SEQUENCE     YES       SET OUT SECUENCE     SET SECUENCE       SET OUT SECUENCE			VA-101		UA-101	UA-101
TYPE CONTACT ANALOG, DEV     AllALOG     CONTACT CONTACT       CONTACT     OPEN     OPEN       CONTACT     OPEN     OPEN       ALARM ON OPEN, CLOSED     OPEN     OPEN       ALARM ON OSING, EALLING     SET PT NO.J     ALARM ON RISING, EALLING       SET PT NO.J     ALARM ON RISING, EALLING     OPEN       DEVIATION     SET PT (VOLTAGE DIFF)     N       NAME PLATE     WHITE     HICO HICO       COLOR     WHITE     HICO HICO       LINE 1     LOC.TEMP     IN       LINE 2     REDEVETGES     BLOG FIELD       DPTIONS     TINCINGERTA     IN       FIRST OUT SEQUENCE     YES     YES       DISCRETE.OUTIVE/TESTINHUNT     IN     IN       IMMUSLING     SET PT ALON     IN       INF 2     INF 2     YES       INF 3     YES     YES       INF 4     INF 4     INF 4       OPTIONS     INF 4     INF 4       INF 5     YES     YES       INF 4     INF 4     INF 4       INF 4     INF 4     INF 4       INF 5     YES     YES       INF 6     INF 4     INF 4       INF 7     INF 4     INF 4       INF 7     INF 4     INF 4   <	POSITION			•		
INPUT FORM     OPEN       CONTACT     OPEN       ALARM ON OPEN, CLOSED     OPEN       SET PT NO.J     ALARM ON RESING, EALLING       SET. PT NO.Z     ALARM ON RISING, EALLING       SET. PT NO.Z     ALARM ON RISING, EALLING       DEVIATION     SET. PT NO.Z       SET. PT NO.Z     ALARM ON RISING, EALLING       DEVIATION     SET. PT NO.Z       SET. PT NO.Z     ALARM ON RISING, EALLING       DEVIATION     SET. PT NO.Z       SET. PT NO.Z     ALARM ON RISING, EALLING       DEVIATION     SET. PT NO.Z       SET. PT NO.Z     ALARM ON RISING, EALLING       DEVIATION     SET. PT NO.Z       SET. PT NO.Z     Mandeture       LINE 1     Zo-TEMP       LINE 2     RODUCTARS       OPTIONS     FILD       EIRST OUT SEQUENCE     YES       DISCRETE OUTHUT/TESTINHIBIT     DISCRETE OUTHUT/TESTINHIBIT       IMandature     Kale       NAME     Kale       IMandature     Kale	TYPE CONTACT ANALOG	DEV	ANALOG		CONTACT	CONTACT
ALARM ON OPEN, CLOSED     OPEN     OPEN     OPEN       AN ALOGA     AN ALOGA     OPEN     OPEN       ALARM ON RISING, EALLING     SET PT NO.2     ALARM ON RISING, EALLING       SET PT NO.2     ALARM ON RISING, EALLING     OPEN       ALARM ON RISING, EALLING     DEVIATION     SET PT NO.2       SET PT NO.2     ALARM ON RISING, EALLING     OPEN       ALARM ON RISING, EALLING     DEVIATION     SET PT NO.2       SET PT NO.2     ALARM ON RISING, EALLING     OPEN       JEVATION     SET PT NO.2     NAME PLATE       COLOR     UPHITE     HICO NICCO       LINE 1     ZQ-TEMP     IN       LINE 2     Repart F     Repart F       OPTIONS     INFORMATION     INFORMATION       ELAST OUT SEQUENCE     YES     YES       DISCRETE OUTFUT TOTOT TOTOT TOTOT TO TOTOT TO TOTOT TO TO	INPUT FORM					
ANALOG SET PT NO.1 ALARM ON RISING, EALLING SET PT NO.2 ALARM ON RISING, EALLING DEVIATION SET PT (VOLTAGE DIFF) NAME PLATE COLOR LINE 1 LINE 2 LINE 3 LINE 4 OPTIONS FLRST OUT SEQUENCE YES DISCRETE OUTIVITATEST INHIBIT IN IN IN IN IN IN IN IN IN IN		ED .			OPEN	OPEN
ALARM ON RISING, EALLING SET PT NO.2. ALARM ON RISING, EALLING DEVIATION SET PT (VOLTAGE DIFF) Mande PLATE COLOR LINE 1 LINE 1 LINE 2 DEVIATIONS FIRST OUT SEQUENCE YES DISCRETE OUTIVIT/TEST INHUBIT	ANALOG					
SET PT NO.2 ALARM ON RISING FALLING DEVIATION SET PT(VOLTAGE DIFF) NAME PLATE COLOR LINE 1 LINE 2 LINE 2 INE 3 COLOR LINE 3 LINE 3 INE 4 OPTIONS FLRST OUT SEQUENCE YES JSC RETE OUTFUT TEST INHURT INE 4 INE 4		LING				
DEVIATION     SET_PT(VOLTAGE DIFF)       NAME PLATE     UUUITE       COLOR     UUUITE       LINE 1     Zo.TEMP       LINE 2     PRODUCTIAS       DEVIATIONS     BLOG       LINE 3     FIRST OUT SEQUENCE       DISCRETE OUTIVITITEST INHUBIT     SES       Image: Second Seco	SET PT NO.7					· · · · · · · · · · · · · · · · · · ·
SET_PT(VOLTAGE DIFF) NAME PLATE COLOR LINE 1 LINE 2 LINE 3 LINE 3 LINE 3 LINE 4 OPTIONS FLAST OUT SEQUENCE YES SES SES SES SES SES SES SES	DEVIATION	LING			•	
COLOR $WHITE$ $HiCO$ $HiCO$ LINE 1     Zo-TEMP $IN$ $IN$ LINE 2     PRODUCTIONS $BLOG$ FIELD       LINE 4     OPTIONS $VES$ $YES$ OPTIONS     VES     YES $YES$ DISCRETE.OUTISEQUENCE     YES $YES$ $YES$ Manufacturer     FISHER $IISHER$ $IISHER$ Catage No. $B-4$ $J4$ $J4$ Pice $A$ $A$ $IISHER$	SET PT (VOLTAGE DIF	F)				
LINE 2 PRODUCTGAS $BLOG$ FIELD LINE 3 TO INCLEATE LINE 4 OPTIONS FLAST OUT SEQUENCE YES YES YES DISCRETE OUTFUT TEST INHUBIT I I I I I I I I			WHITE		HICO	HI.CO
LINE 3 LINE 4 OPTIONS FIRST OUT SEQUENCE $YES$ $YES$ $YES$ DISCRETE OUTFUT (TESTINHUB)					A second se	11
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	LINE 3			ĸ		
FIRST OUT SEQUENCE     YES     YES       DISCRETE OUTIVT/TESTINHIBIT     Image: Second Se						
DISCRETE OUTFUT TEST INHIBIT		E	YES		YES	YES
	DISCRETE OUTPUTSTEST	INHIBIT_				
		·····				
				· · · · · · · · · · · · · · · · · · ·		
			·			
						· 
	Manufacturer	]	FISHER	······		
	2 P.O. No.		<u> 0-4</u>		<u>J4</u>	<u>J4</u>
		·				

1.5 115 11/651

- .

4

\$ P

t

## *****... 1

.