https://ntrs.nasa.gov/search.jsp?R=20100040594 2019-08-30T13:29:04+00:00Z

## NASA Docking System (NDS) Block 0 Configurations

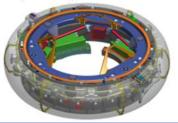
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Dash Number	NDS (-301)	NDS (-302)	NDS (-303)	NDS (-304)		
Configuration Differences						
Status	In Development	✓	Avail on Request	Avail on Request		
Specification Max Weight (lb)	750	704*	✓	711		
Host Power	120 VDC	✓	28 VDC	✓		
NDS Tunnel Height (in.)	15	TBD	✓	✓		
Dynamic Seal or Seal Surface	Seal	Seal Surface	$\checkmark$	✓		
Host Leak Check Port	NDS Tunnel	Host tunnel	$\checkmark$	✓		
Separator Striker Inteface	Integral to NDS	TBD	$\checkmark$	✓		
Power & Data Umbilical Interface	Integral to NDS	On Host Structure	$\checkmark$	✓		
SCS Magnet Striker	Yes	$\checkmark$	$\checkmark$	No		
Hooks	12 Active/Passive	$\checkmark$	$\checkmark$	12 Active		
Pyrotechnic Hook Release	Yes	No	$\checkmark$	No		
Electrical Boxes Mounting	Integral to NDS	Mounted to Host	$\checkmark$	✓		
<b>Electrical Cable Length/Routing</b>	Integral to NDS	Host specific routing	$\checkmark$	✓		
Hermetic Pass Thru for NDS						
control	Integral to NDS	In Host Structure	$\checkmark$	$\checkmark$		
MMOD Shield	Integral to NDS	Host Provided	$\checkmark$	$\checkmark$		
Passage Way Closeout	Integral to NDS	Host Provided	$\checkmark$	$\checkmark$		
Life	231 days	15 Years	$\checkmark$	$\checkmark$		
Active Docking Cycles	2	Future capability	$\checkmark$	$\checkmark$		
Passive Docking Cycles	50	$\checkmark$	$\checkmark$	None		
Other Key Interfaces						
	EIA422 or					
S/W Interface to Host	MIL-STD-1553	✓	✓	✓		
Comm Channels to Host	One comm channel					
(NDS control and heater control)	for A & one for B	✓	✓	✓		
Motorized Transfer Umbilicals	Power and Data	√	$\checkmark$	✓		
Motorized Separation System	Yes	✓	✓	✓		
Configuration Description		Legend	✓ Indicates config is same as -301			

## Ready to Dock (Active Mode) Soft Capture System Extended



Ready to Dock/Launch (Excluding -302 Passive Mode) Soft Capture System Retracted



Ready to Dock/Launch (-302 Passive Mode) Electrical Boxes mounted in host

## **Configuration Description**

- 301: Core: 120VDC power, integrated electronics
- 302: Short: Reduced height; electronics boxes remotely mounted
- 303: Low Voltage: Same as 301 except 28VDC power input
- 304: Abated: Same as 301 except reduced functionality/reduced mass, selected missions

\*Complete -302 integration mass requires a host provided components of ~65 lb