

## Bepaling van het verband tussen aanhaalmoment en spankracht bij 8G-bouten met diameter: 1/2", 5/8" en 3/4"

**Citation for published version (APA):**

Kortman, J. C. (1962). *Bepaling van het verband tussen aanhaalmoment en spankracht bij 8G-bouten met diameter: 1/2", 5/8" en 3/4"*. (DCT rapporten; Vol. 1962.005). Technische Hogeschool Eindhoven.

**Document status and date:**

Gepubliceerd: 01/01/1962

**Document Version:**

Uitgevers PDF, ook bekend als Version of Record

**Please check the document version of this publication:**

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
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## 4 Gemeten aanhaalmoment in kgfm

A 1/2" bouten:

bout nr.	trekkracht in kgf		1000	2000	3000	4000
	Smering					
I	1	olie	4.2	7.1	10.5	14.0
	2		3.6	7.2	9.4	11.2
	3	vet	2.8	5.0	7.2	9.1
	4		3.0	5.4	8.0	10.6
	5	molykote	2.6	5.5	8.4	10.8
	6		2.8	5.9	8.0	10.0
II	1	vet	3.0	5.4	7.8	10.2
	2		2.5	5.0	7.8	10.0
	3	molykote	2.3	4.9	7.4	9.8
	4		2.4	5.0	7.5	9.8
	5	olie	2.7	5.8	8.2	11.0
	6		2.6	5.1	7.5	9.8
III	1	molykote	3.0	6.0	8.5	11.3
	2		2.4	5.2	7.6	9.7
	3	olie	2.5	5.2	7.6	10.0
	4		2.4	4.9	7.5	9.5
	5	vet	2.8	5.3	7.5	9.6
	6		2.3	4.7	6.6	9.0

B 5/8" bouten:

bout nr.	trekkracht in kgf		1500	3000	5000	6500
	Smering					
I	1	olie	6.0	14.8	24.0	29.0
	2		4.8	12.8	22.4	30.4
	3	vet	4.8	11.2	16.8	20.4
	4		4.9	11.2	16.8	22.4
	5	molykote	6.8	12.8	19.6	24.6
	6		6.0	13.2	23.2	29.2
II	1	vet	5.6	11.2	18.0	23.2
	2		5.2	12.0	18.0	25.2
	3	molykote	6.8	14.0	22.0	28.0
	4		5.2	11.6	19.2	26.0
	5	olie	6.4	12.0	20.4	26.0
	6		8.0	14.0	22.4	29.6
III	1	molykote	7.2	12.8	21.2	27.6
	2		4.8	12.0	19.6	24.4
	3	olie	7.2	12.8	21.2	28.0
	4		6.4	12.4	22.4	27.2
	5	vet	5.6	12.0	16.4	22.8
	6		6.8	11.2	18.4	22.8

bout nr.	trekkracht smering in kgf		2000	3500	5500	7000	9000
I	1	olie	10,0	16,8	26,0	32,4	42,8
	2		10,5	19,2	28,4	33,2	43,2
	3		8,6	16,0	24,0	30,0	36,4
	4	vet	8,4	16,0	23,6	29,6	35,6
	5		10,4	17,2	24,8	32,8	42,4
	6		10,4	17,2	25,6	31,2	38,8
II	1	vet	8,0	14,4	21,0	28,0	35,2
	2		8,8	16,0	23,2	27,6	34,8
	3		8,0	14,8	22,4	28,4	36,8
	4	molykote	8,2	14,4	21,6	27,2	36,0
	5		10,6	18,0	26,8	32,0	39,6
	6		9,0	16,8	25,6	32,4	40,4
III	1	molykote	9,6	16,0	24,0	28,8	36,4
	2		8,8	16,0	26,0	32,4	42,0
	3		8,8	15,2	24,8	31,2	38,0
	4	olie	8,4	16,0	24,0	30,0	40,0
	5		9,2	14,8	22,0	26,4	33,2
	6		8,4	13,6	20,8	26,4	34,0

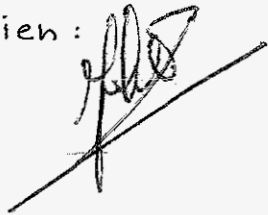
5 In fig. 1 t.e.m. 7 zijn de gemiddelden van de twee bij elkaar behorende meetwaarden uitgezet. Het hieruit volgende verband tussen M en P (in kgfm/tonf) is hieronder in tabelvorm weergegeven

bout- diameter	geval		I	II	III	gemidd.
	smering					
1/2"	vet		2,52	2,55	2,37	2,48
	molykote		2,70	2,45	2,67	2,61
	olie		3,42	2,65	2,50	2,88
5/8"	vet		3,49	3,70	3,57	3,59
	molykote		4,23	4,16	4,06	4,15
	olie		4,62	4,33	4,30	4,42
3/4"	vet		4,26	4,01	3,85	4,04
	molykote		4,62	4,01	4,44	4,36
	olie		4,84	4,62	4,33	4,60

## 6 Conclusies :

- a. Uit voorgaande metingen blijkt, dat van de drie gebruikte smeermiddelen, vet de beste smering geeft. Daarop volgt molykote, terwijl de gebruikte olie de slechtste resultaten geeft. De verschillen zijn echter niet groot.
- b. Herhaald gebruik doet de wrijving dalen. In de meeste gevallen was het aantal kgfm/tonf. de derde maal duidelijk lager, dan de eerste maal.
- c. Uit deze metingen mag niet worden geconcludeerd, dat molykote geen invloed heeft op de zelfremming van de moer onder dynamische belasting.

Gezien:

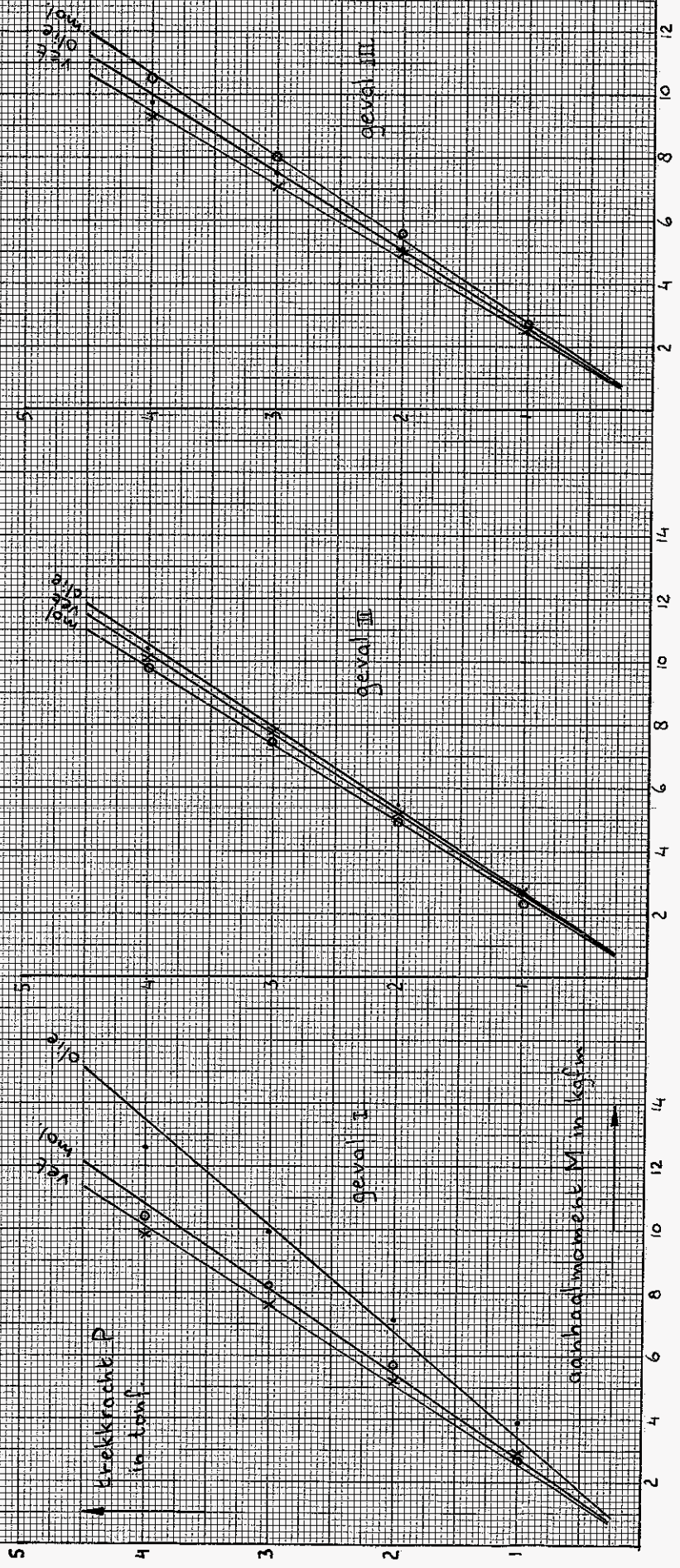


Eindhoven 22-6-'62

J.C. Kortman

Fig 1 1/2" bout

x vet  
 o molykote  
 . olie



brekkracht P  
 in tonf

aandradmoment M in kgfm



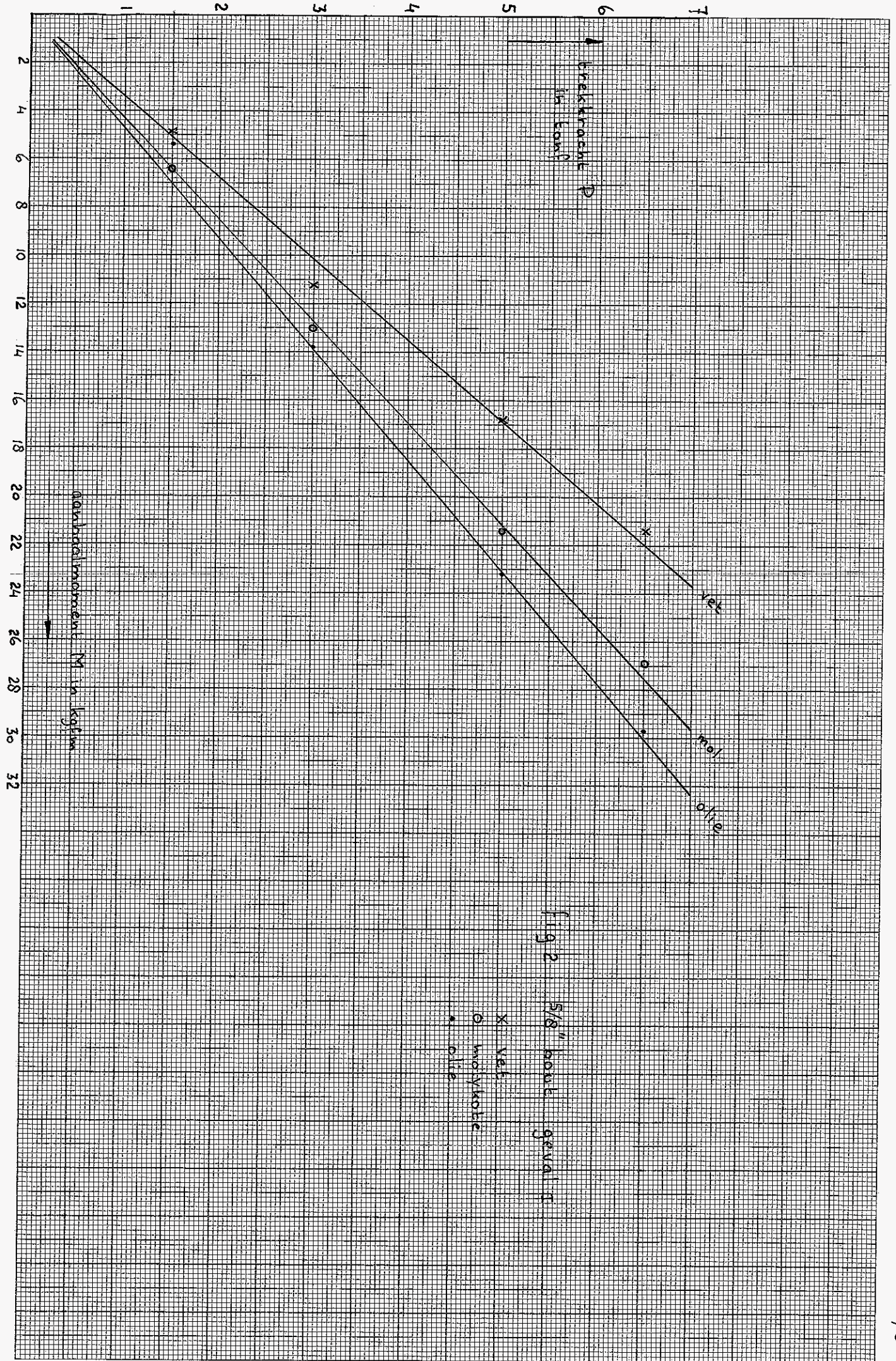


fig 2 5/8" bouw gewa I

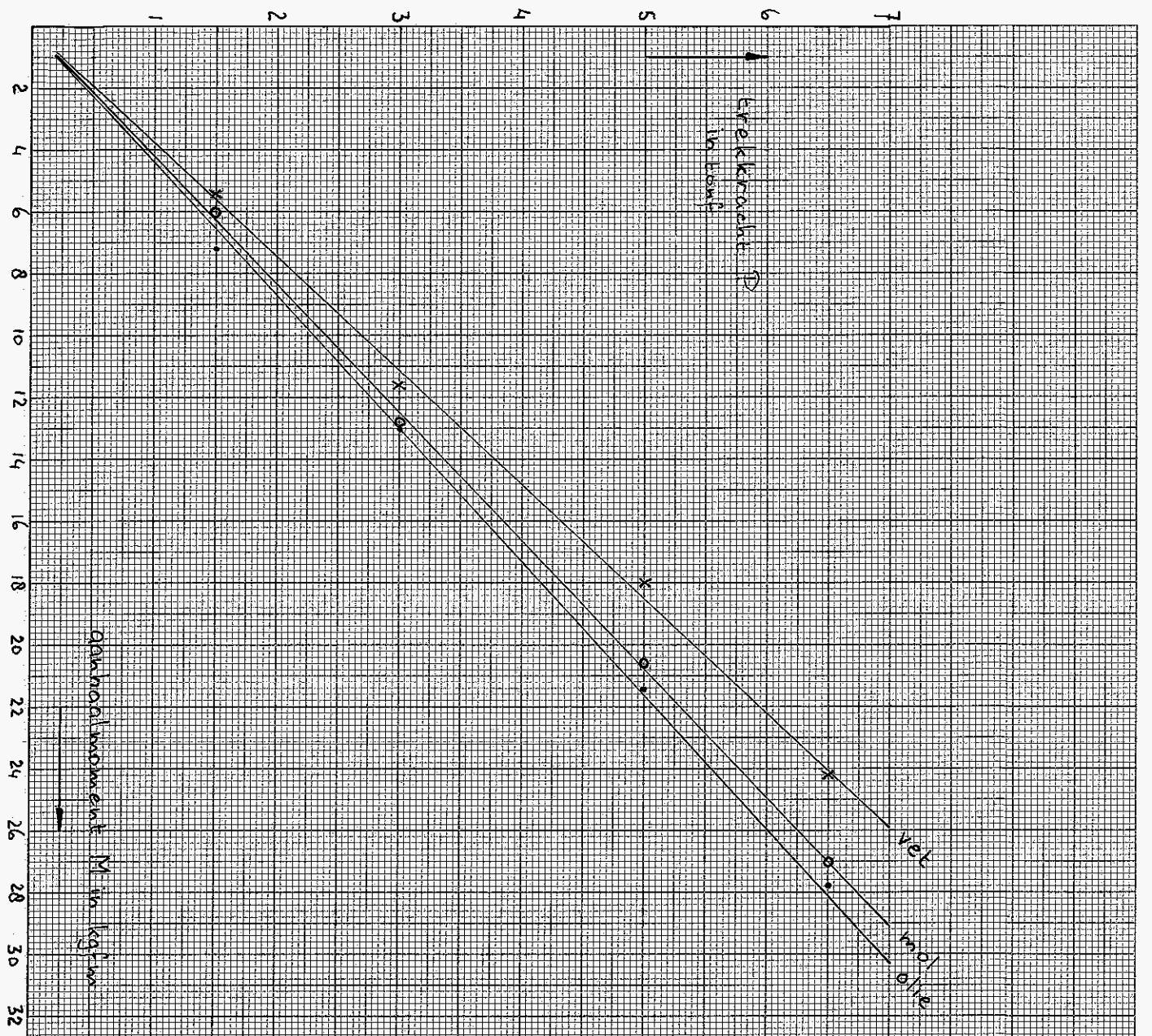


fig 3 5/8" bout geval II

x vel  
 o molykote  
 • olie



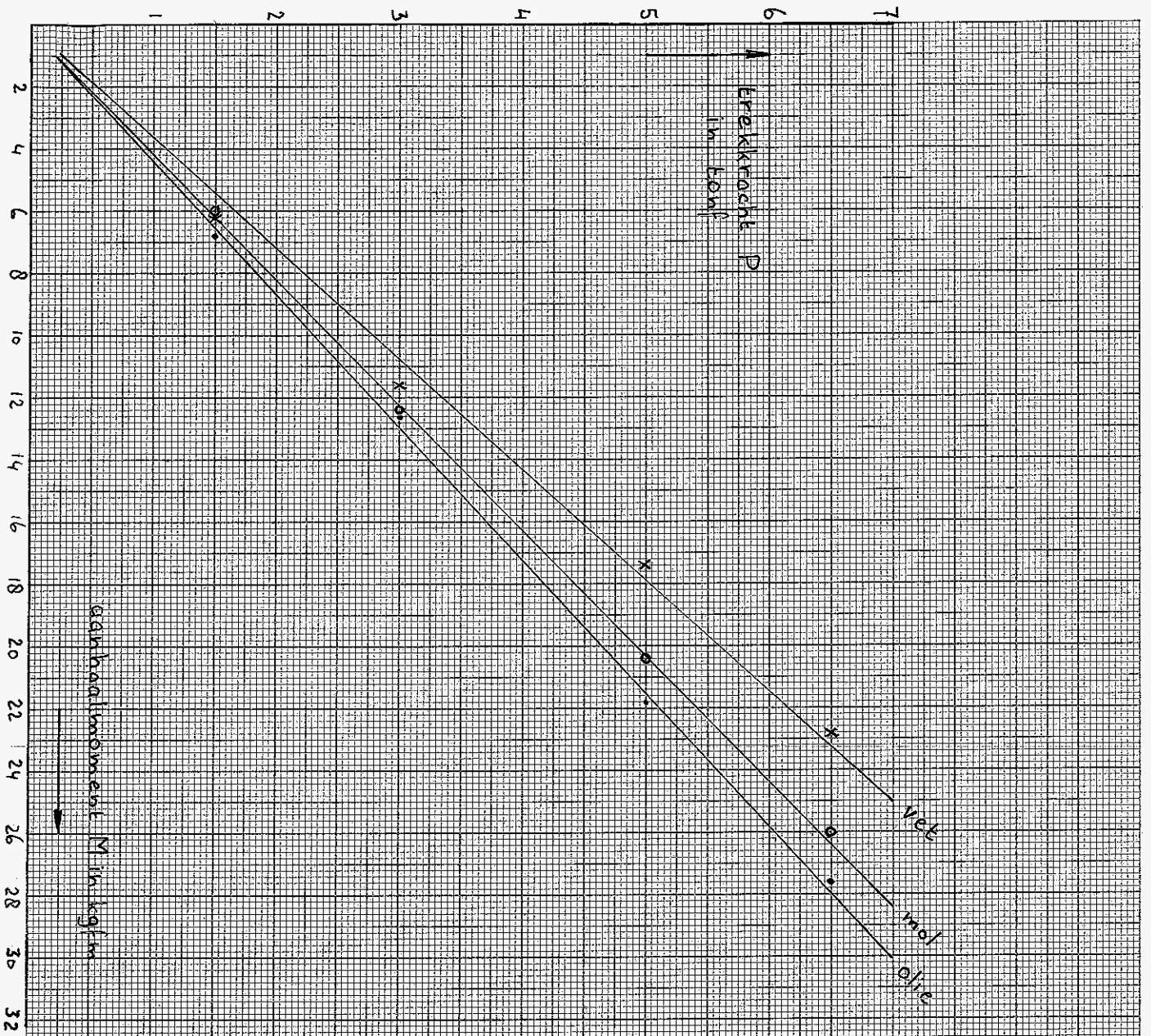


Fig 4 5/8 bout geval III

x Vet  
 o mol  
 • olie

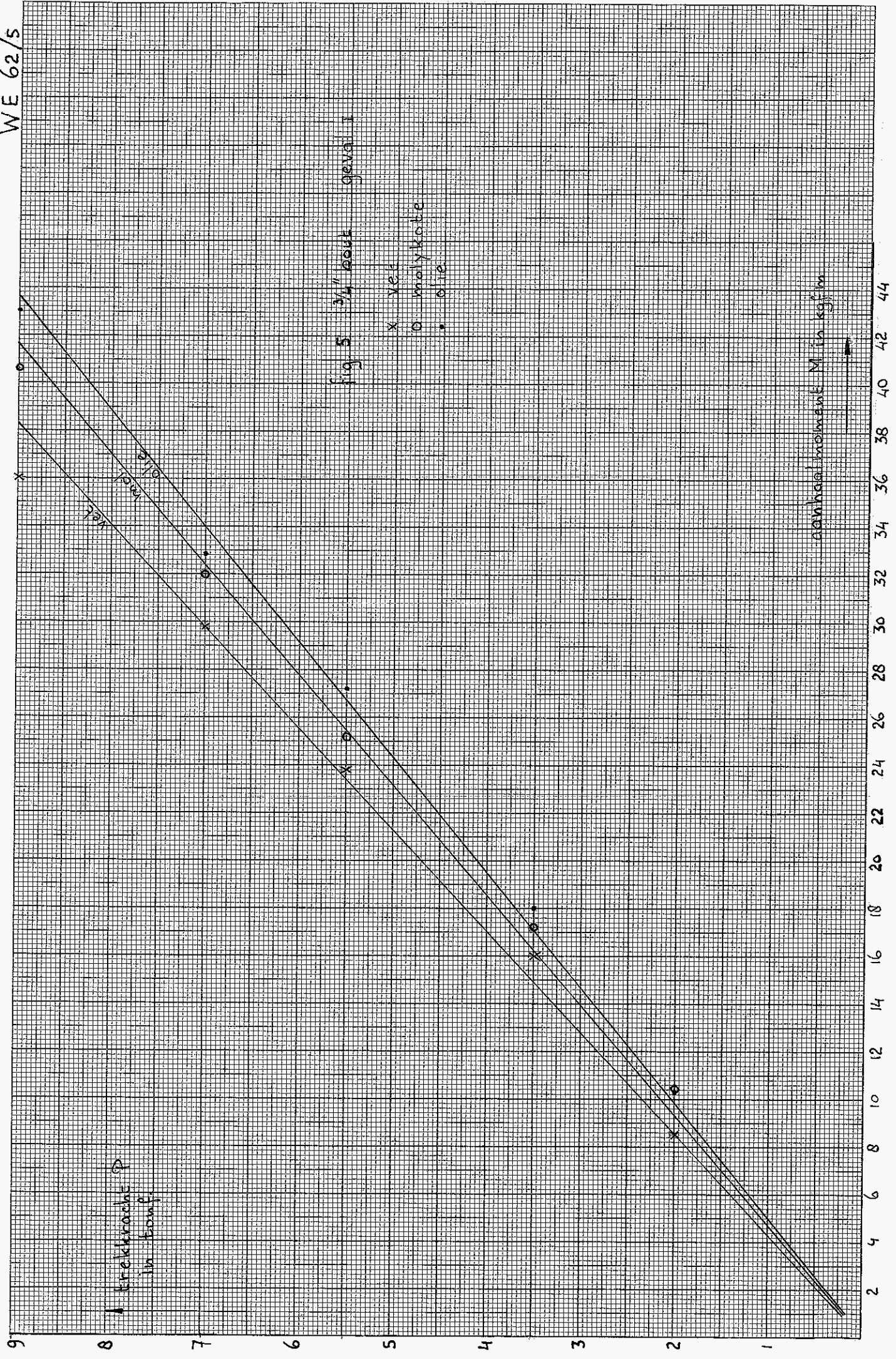
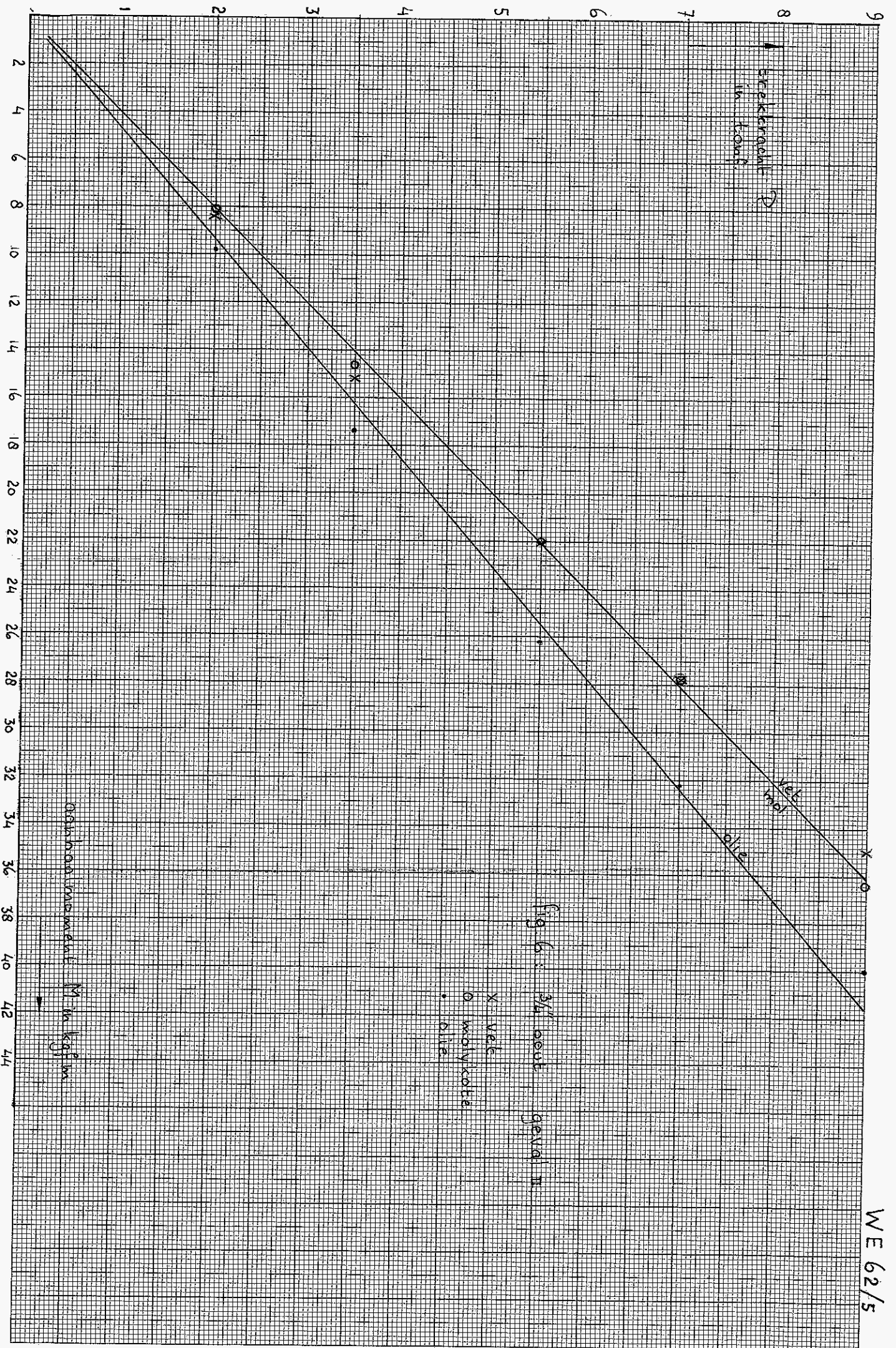


fig. 5 3/4 bout geval 1





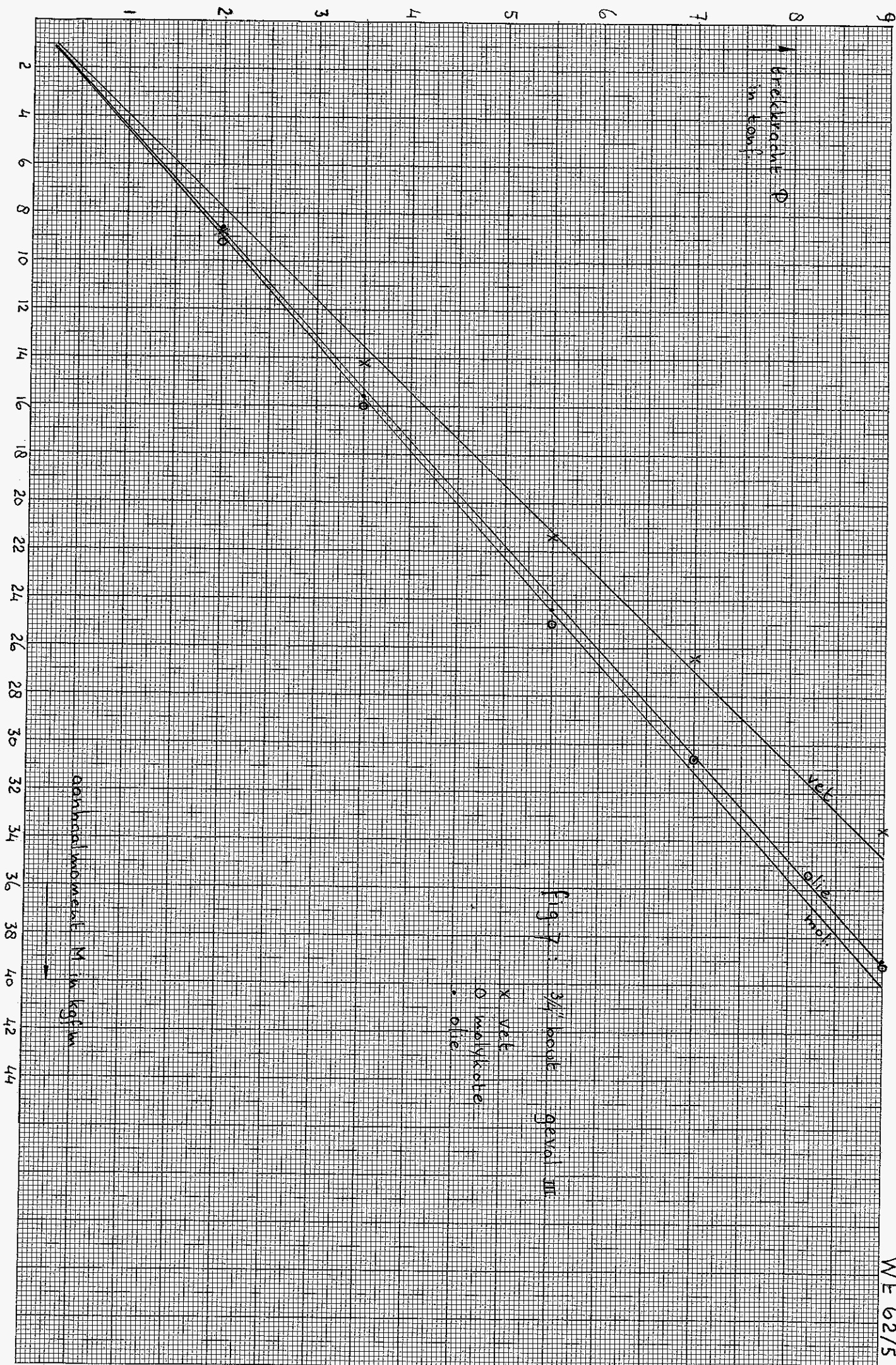


Fig. 7: 3/4" bore, genval III

x Vel  
o olive  
• mal

abnahmewert M in kg/cm

Brennweite P  
in cm