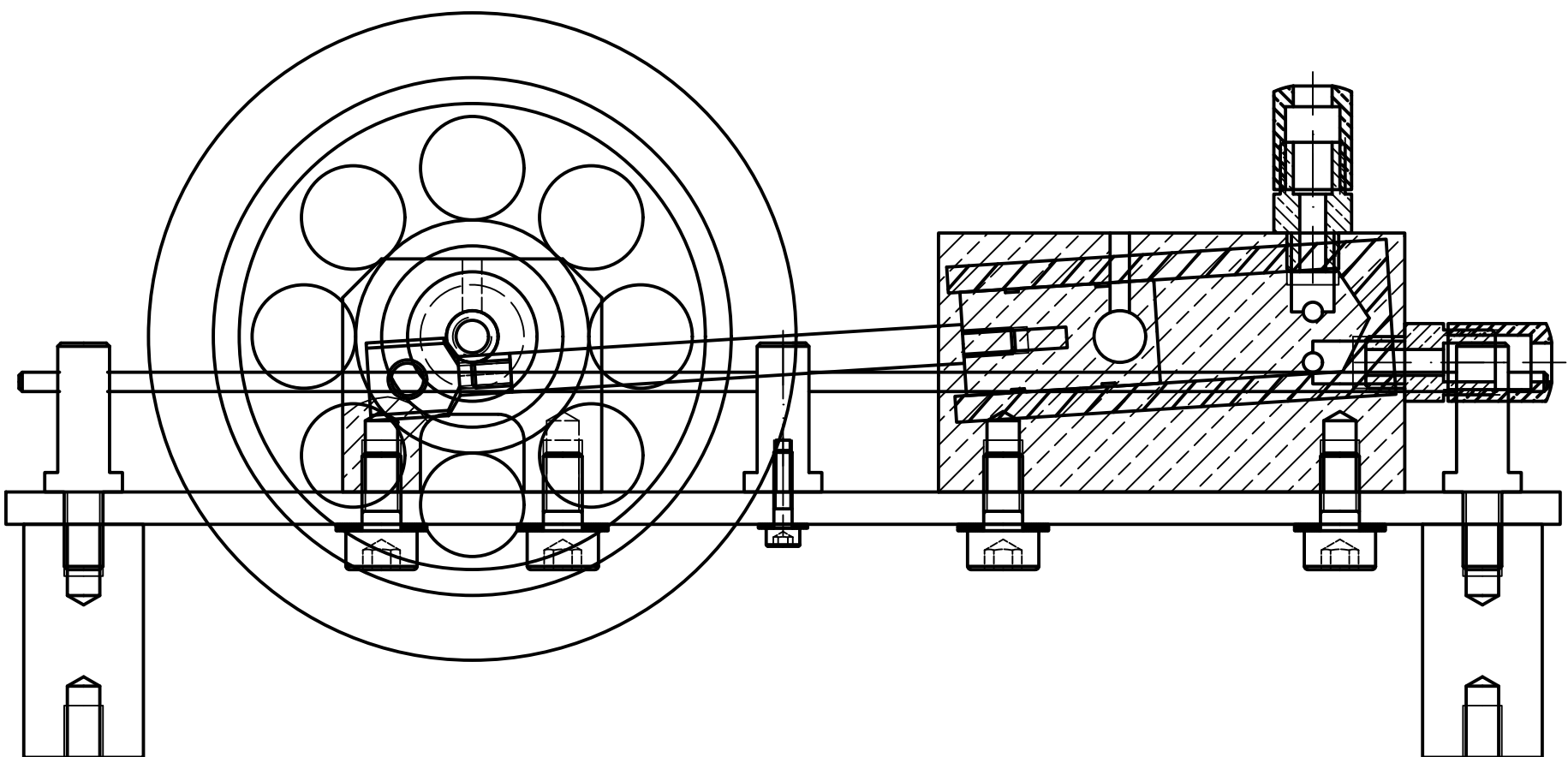
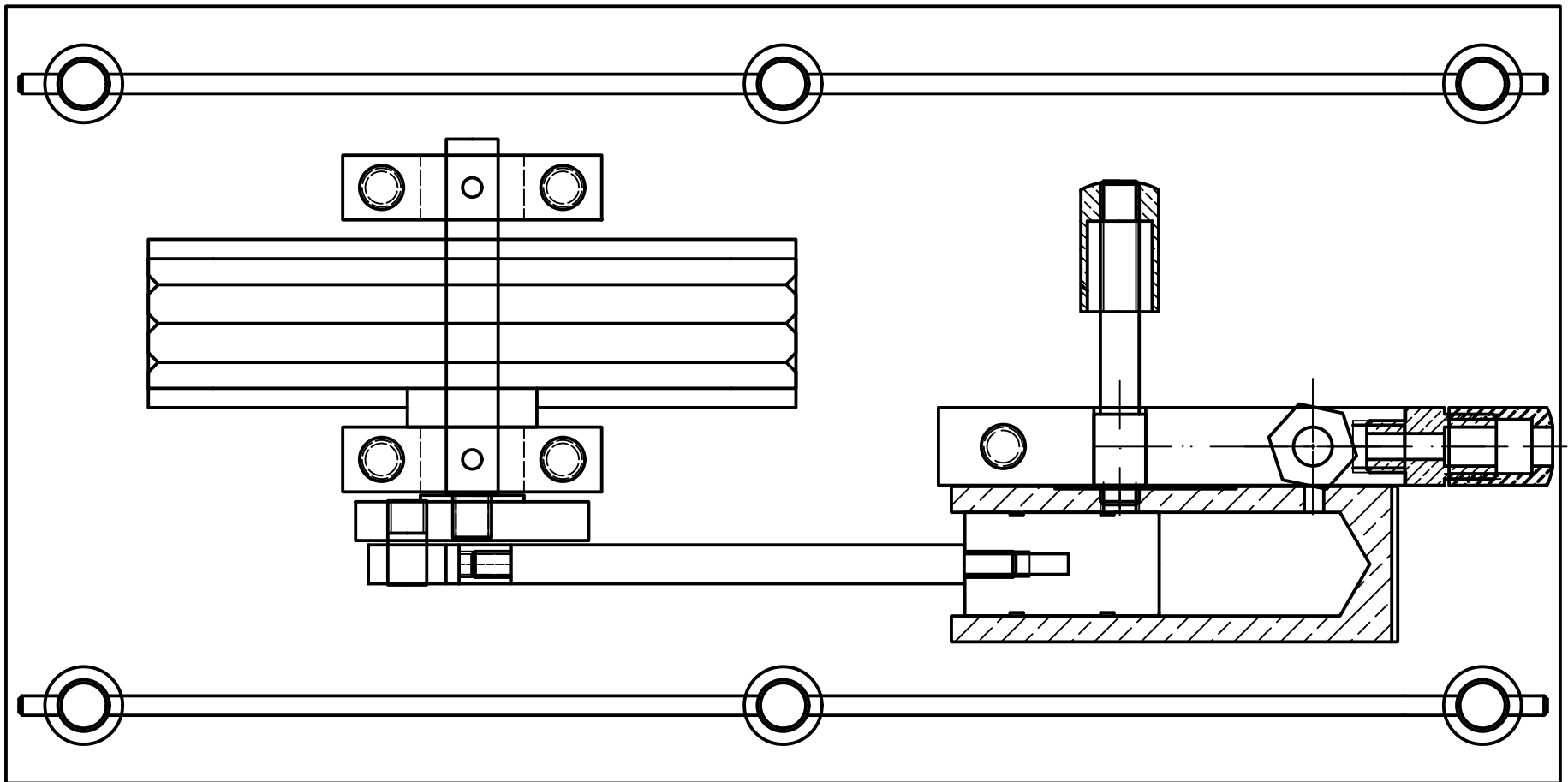
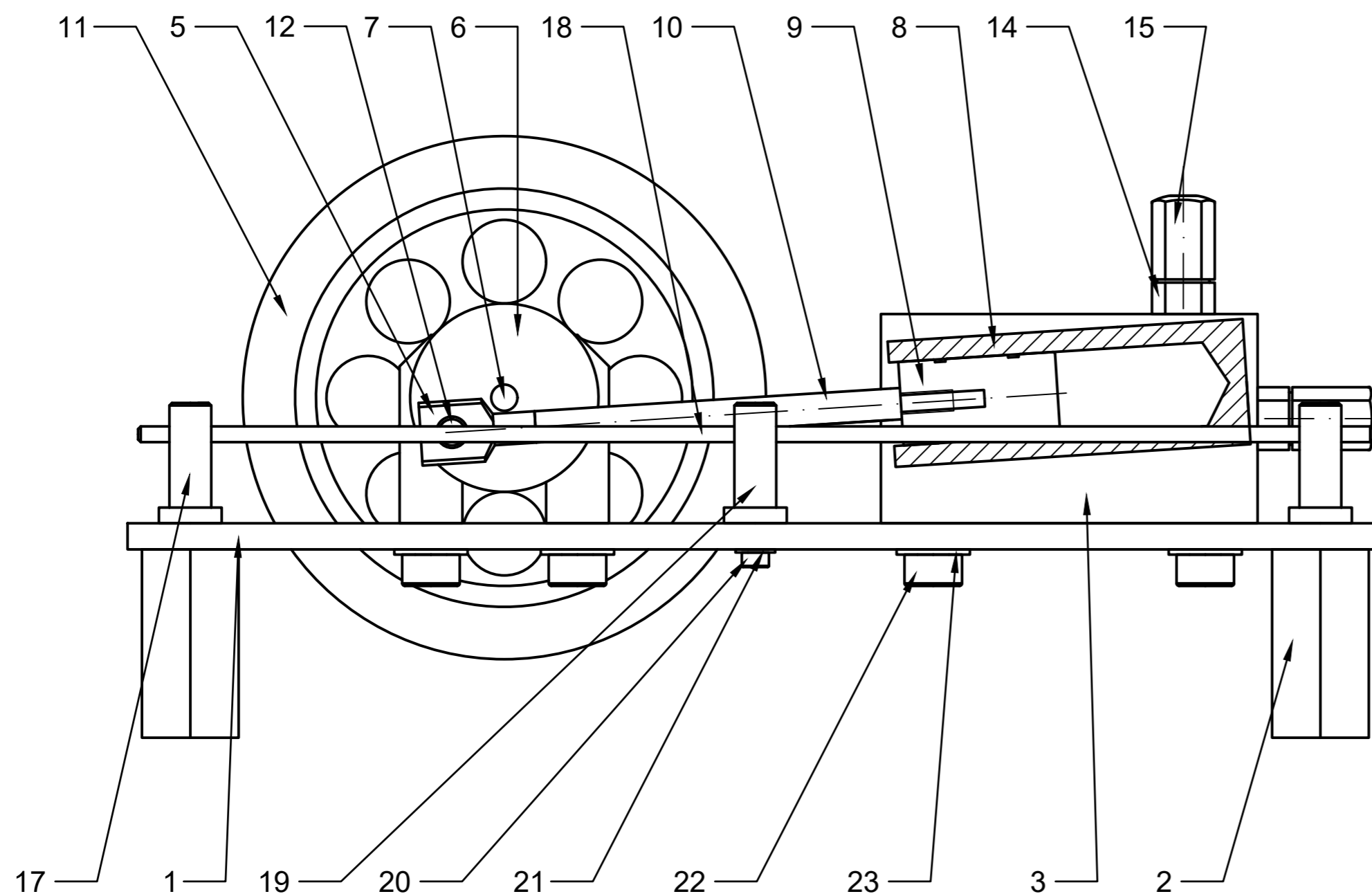
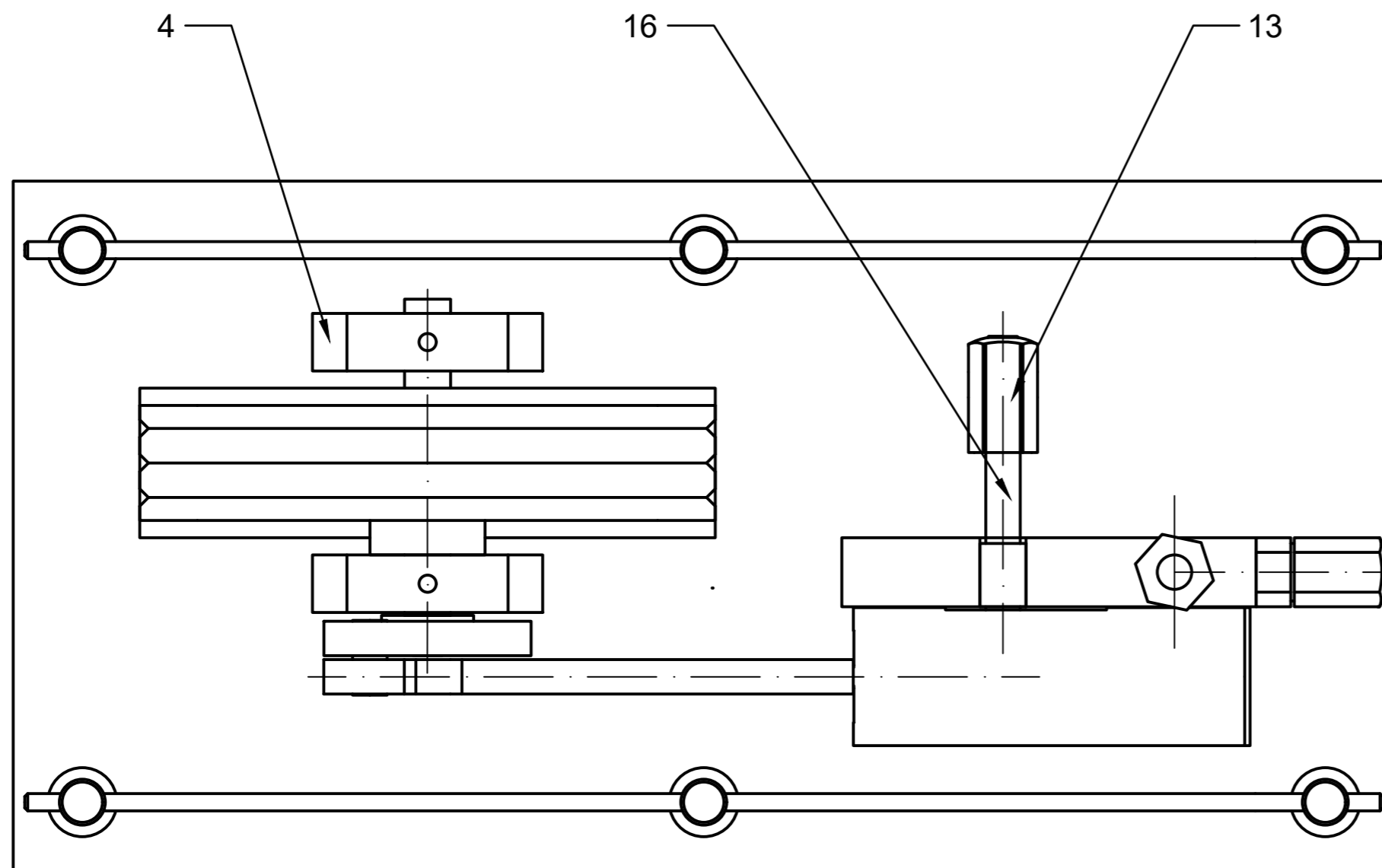


# ÜBUNGSPROJEKT

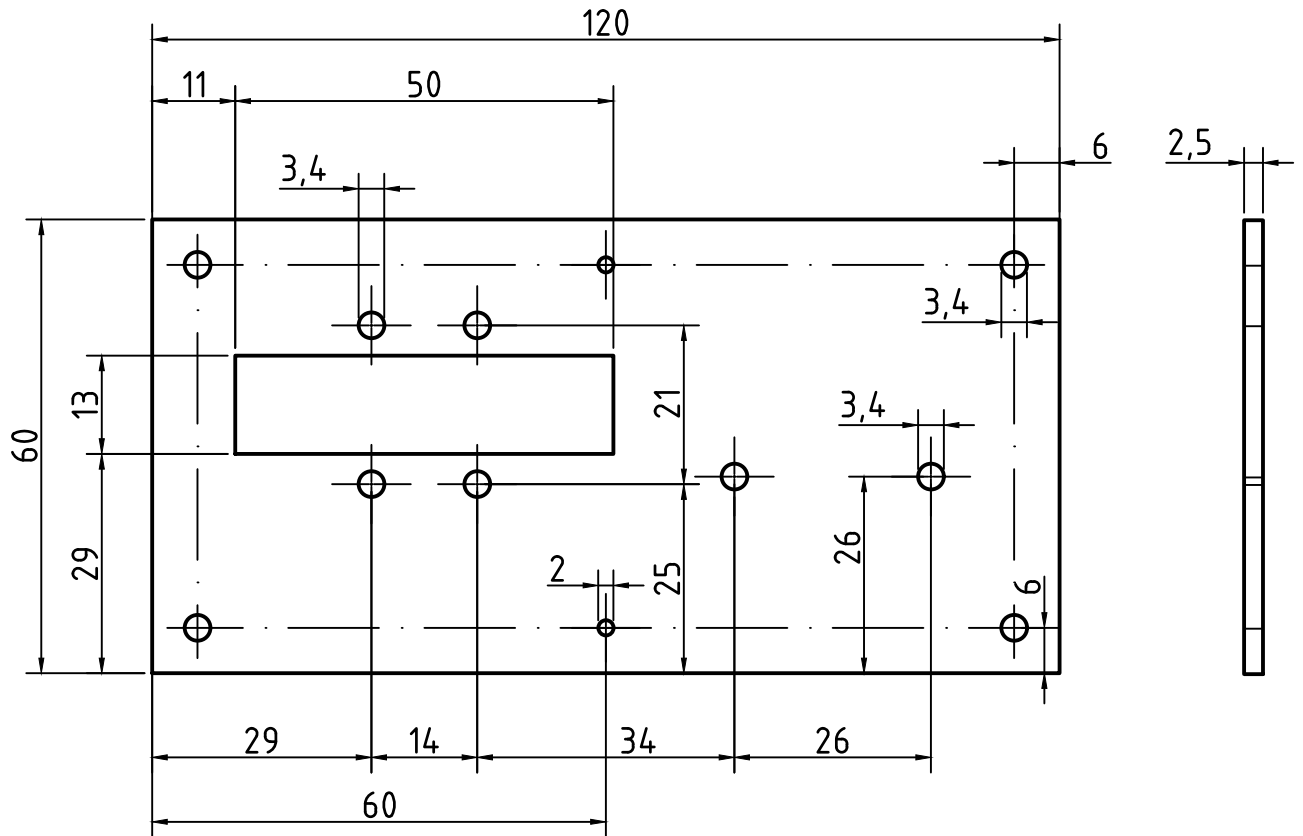
## KLEINE DAMPFMASCHINE





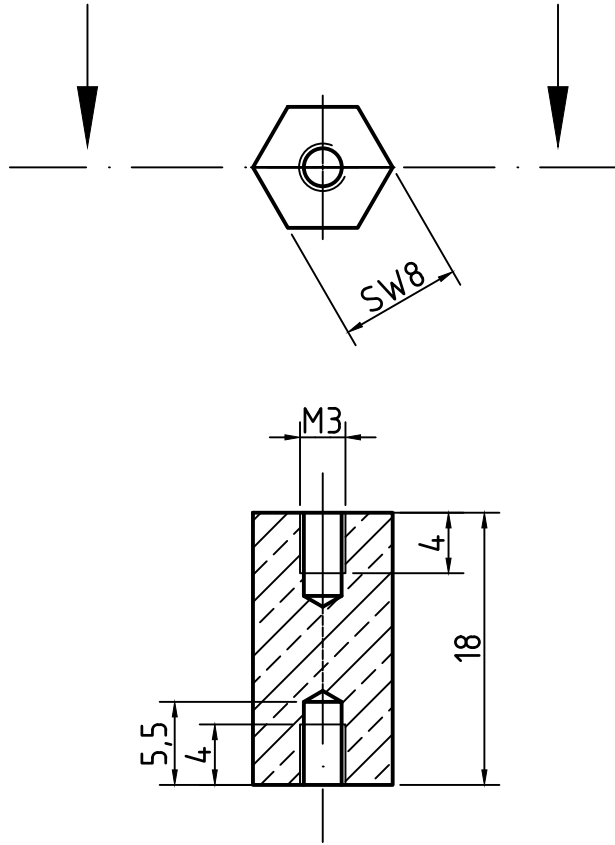
Pos. Nr.	Benennung	Menge	Material
1	Grundplatte	1	Kupfer
2	Fuß	4	Messing
3	Spiegel	1	Messing
4	Lagerbock	2	Messing
5	Kolbenstangenkopf	1	Messing
6	Kurbelschelbe	1	Messing
7	Kurbelwelle	1	Stahllegierung
8	Zylinder	1	Glas
9	Kolben	1	Stahllegierung
10	Kolbenstange	1	Stahllegierung
11	Schwungrad	1	Messing
12	Kurbelzapfen	1	Messing
13	Pendelmutter	1	Messing
14	Nippel	2	Messing
15	Nippelmutter	2	Messing
16	Pendelachse	1	Stahllegierung
17	Steg	4	Messing
18	Reling	2	Messing
19	Mittelsteg	2	Messing
20	DIN 912 M1.4x6 --- 6S	2	
21	Washer DIN 125-A 1.7	2	
22	DIN 912 M3x6 --- 6S	6	
23	Washer DIN 125-A 3.2	6	
	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 2:1 mm	<b>Dampfmaschine</b>		ZEICHNUNG 1 A2

1. Grundplatte  
M 1:1 (Kupfer)

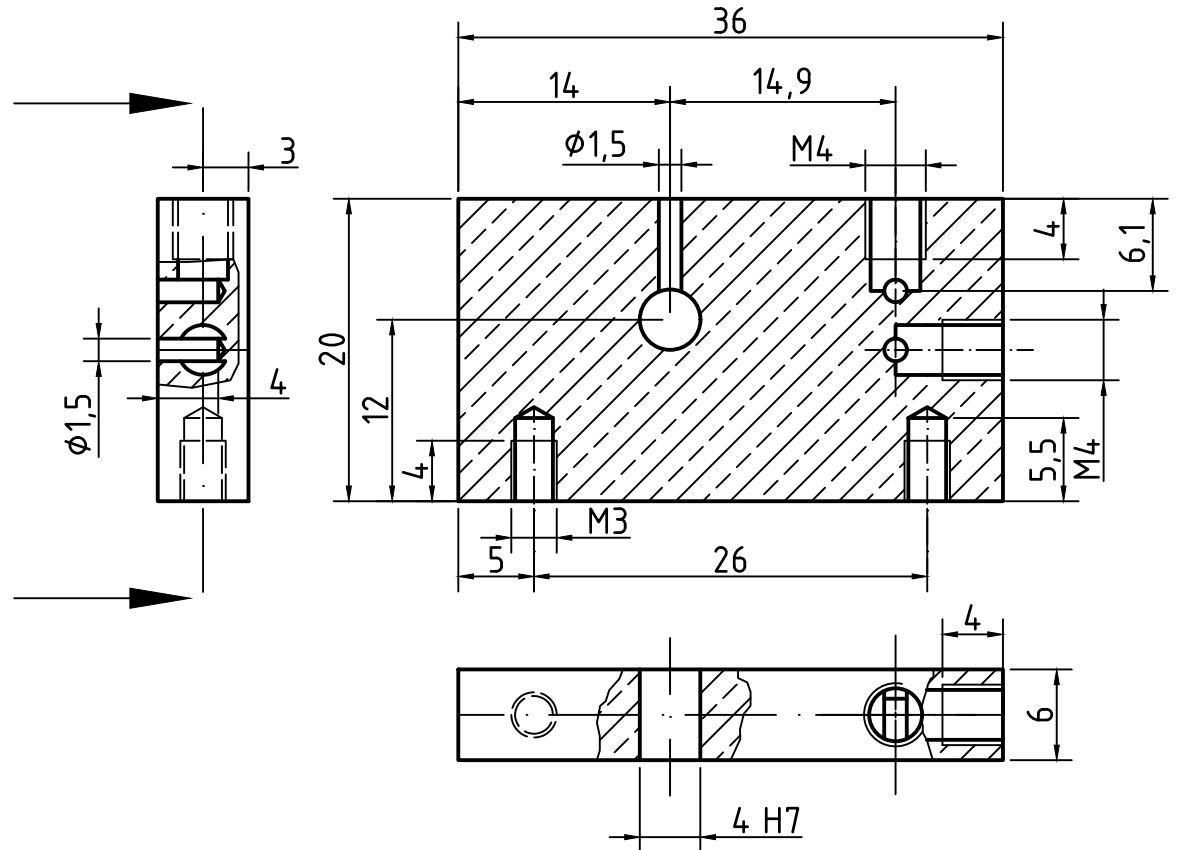


	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 1:1 mm	Grundplatte		ZEICHNUNG 2
			A4

2. Fuß  
M 2:1 (Messing)

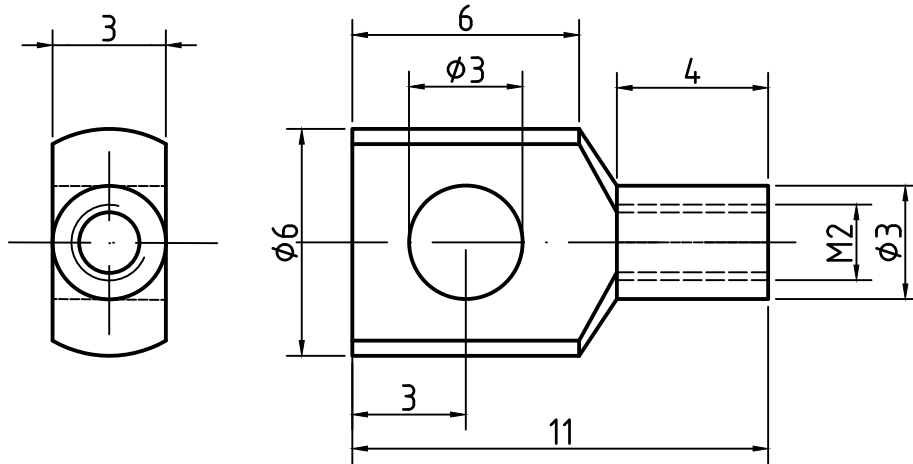


3. Spiegel  
M 2:1 (Messing)

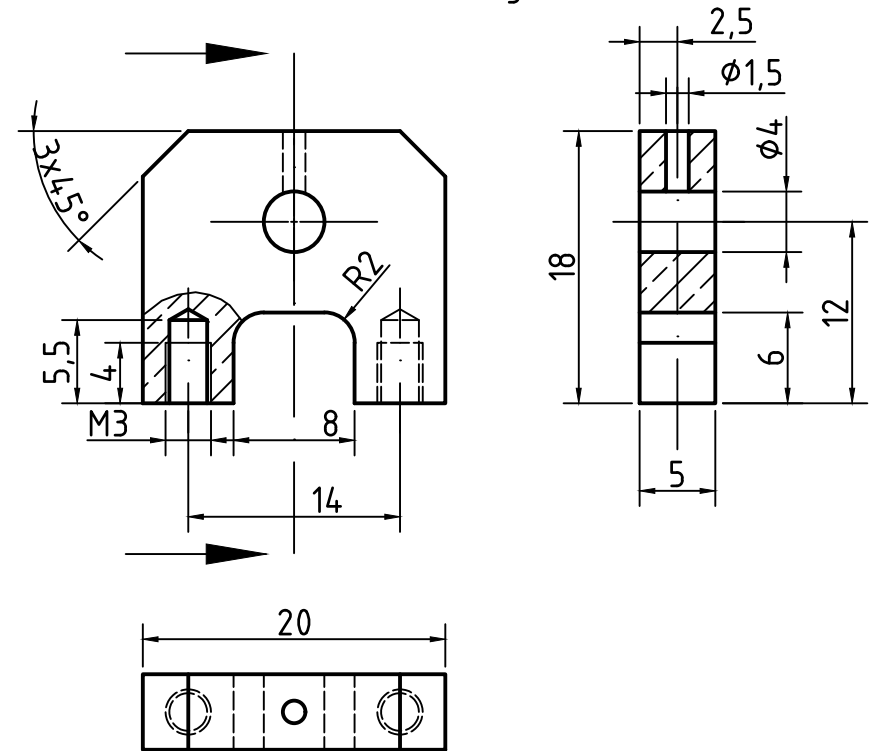


	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 2:1 mm	Spiegel, Fuß		ZEICHNUNG 3
			A4

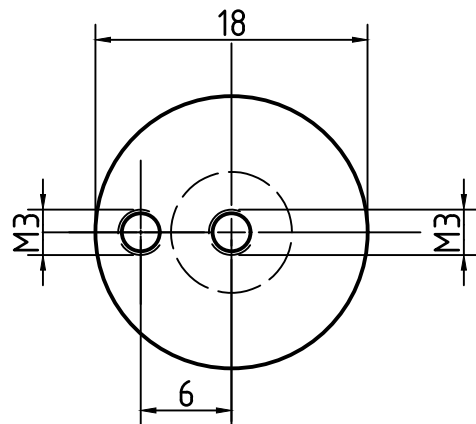
5. Kolbenstangenkopf  
M 5:1 (Messing)



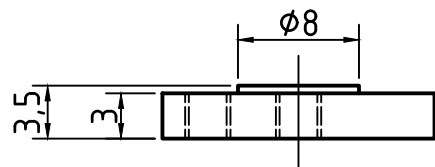
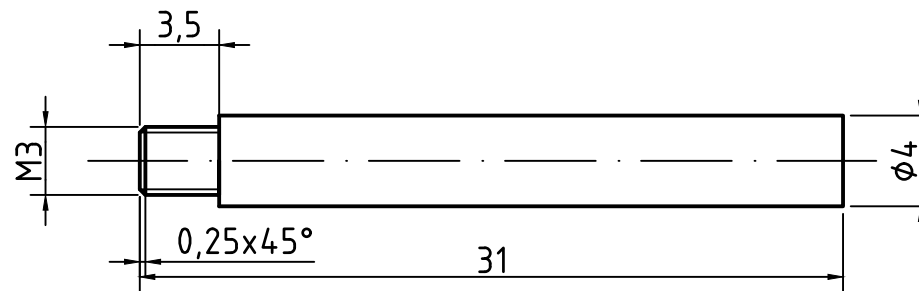
4. Lagerbock  
M 2:1 (Messing)



6. Kurbelscheibe  
M 2:1 (Messing)

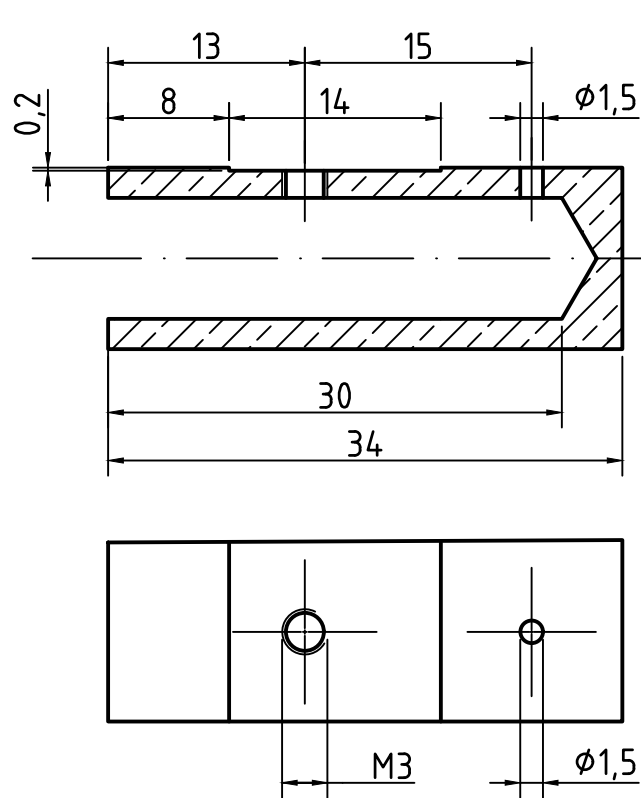


7. Kurbelwelle  
M 3:1 (Stahl)

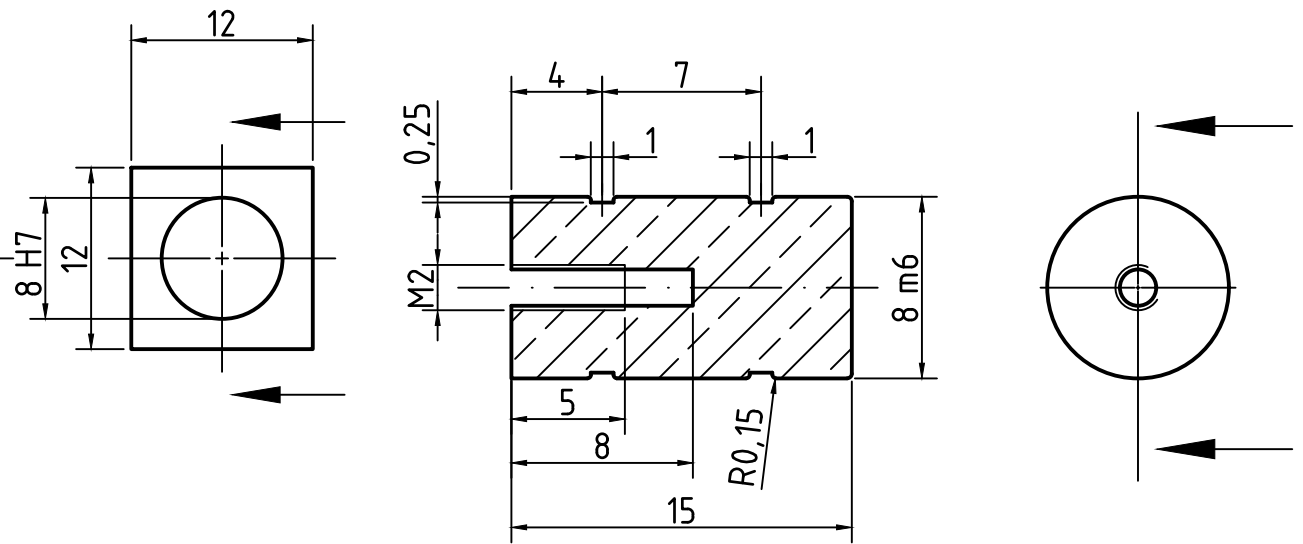


	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 2:1 3:1 M 5:1 mm	Lagerbock, Kolbenstangenkopf, Kurbelscheibe, Kurbelwelle		ZEICHNUNG 4
			A4

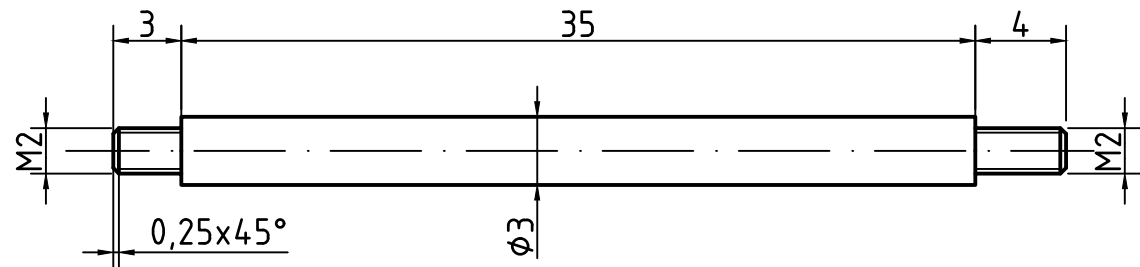
8. Zylinder  
M 2:1 (Messing)



9. Kolben  
M 3:1 (Stahl)



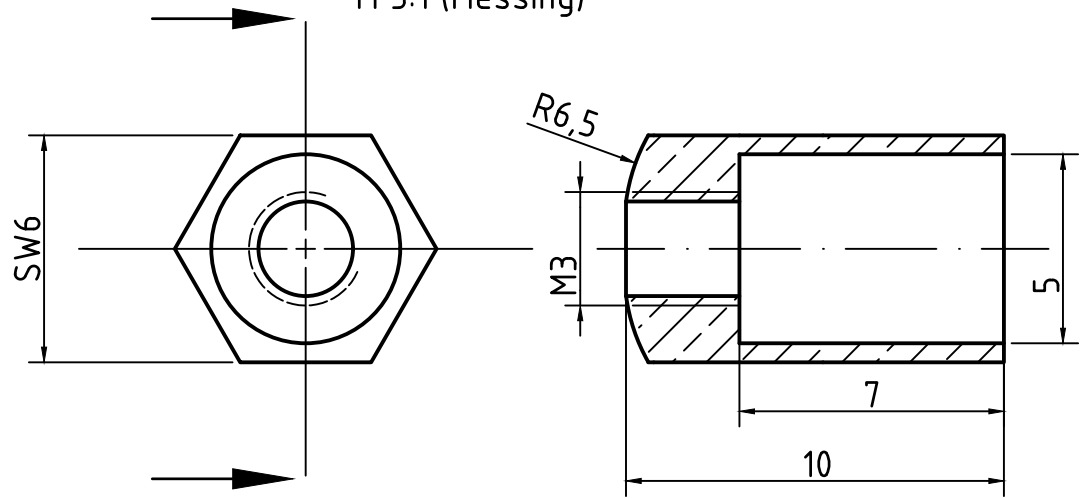
10. Kolbenstange  
M 3:1 (Stahl)



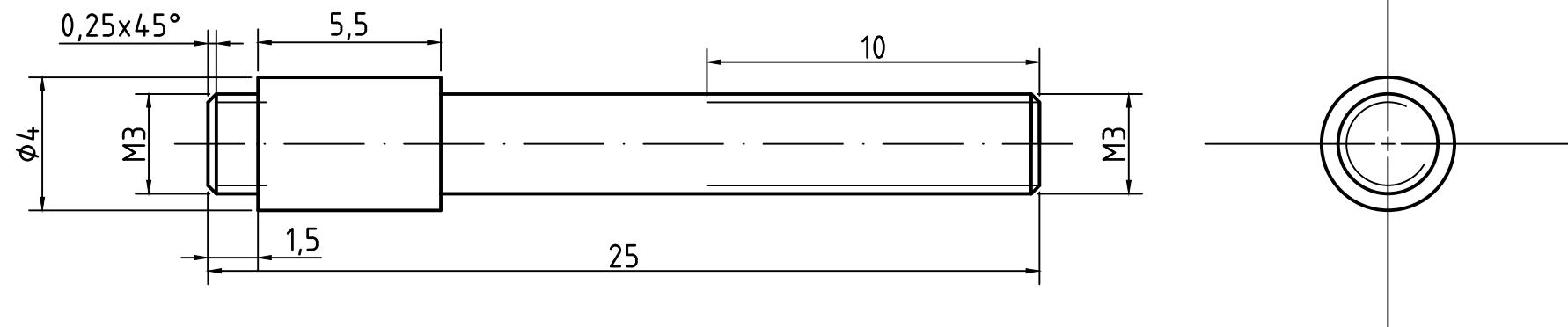
	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 2:1 3:1 mm	Zylinder, Kolben, Kolbenstange		ZEICHNUNG 5
			A4



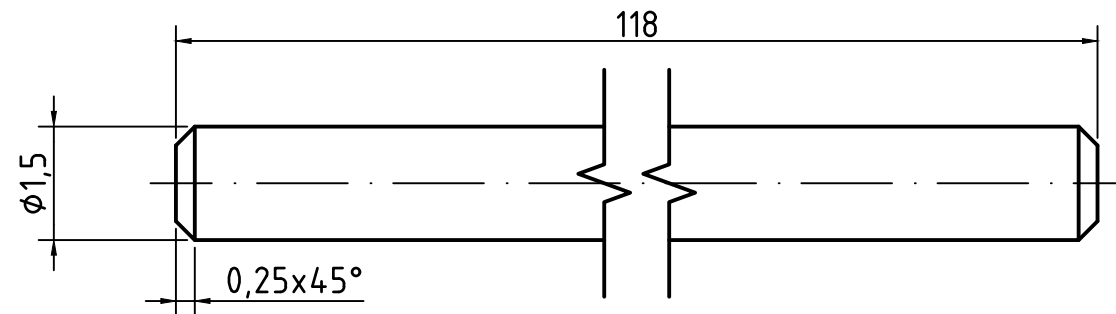
13. Pendelmutter  
M 5:1 (Messing)



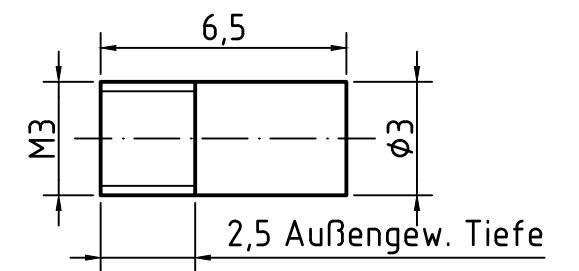
16. Pendelachse  
M 5:1 (Stahl)



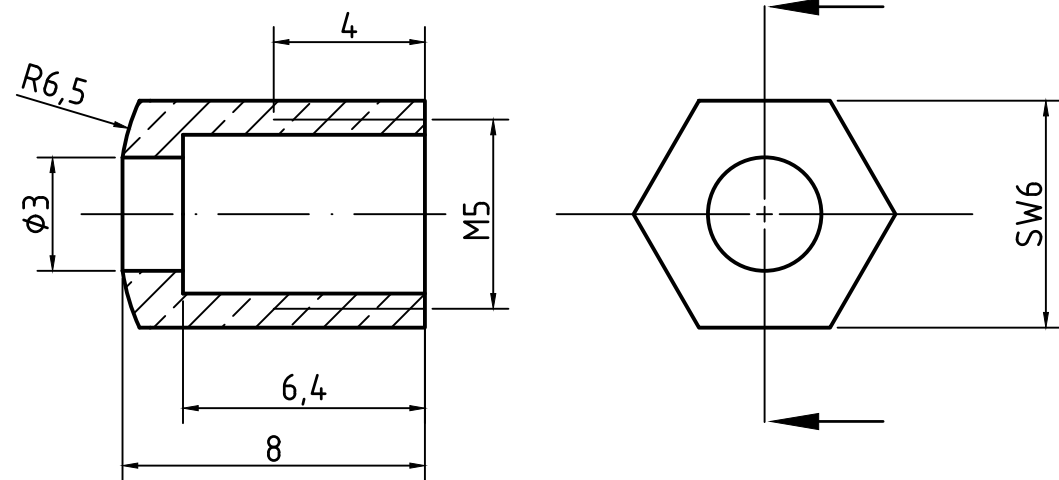
18. Reling  
M 10:1 (Messing)



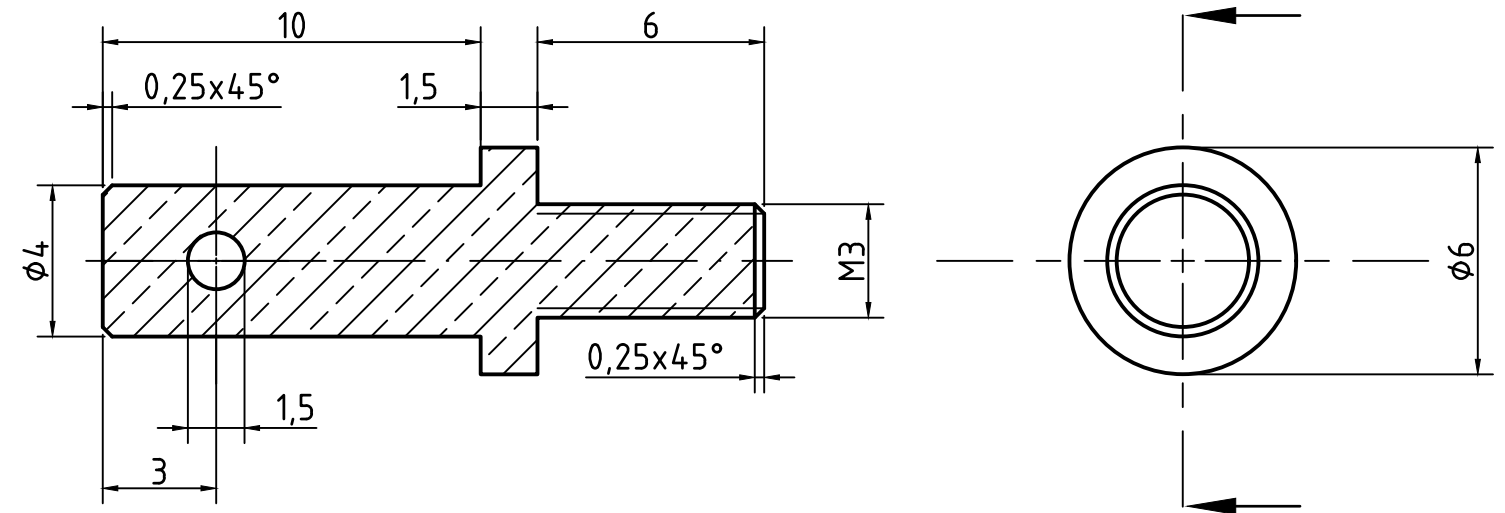
12. Kurbelzapfen  
M 5:1 (Messing)



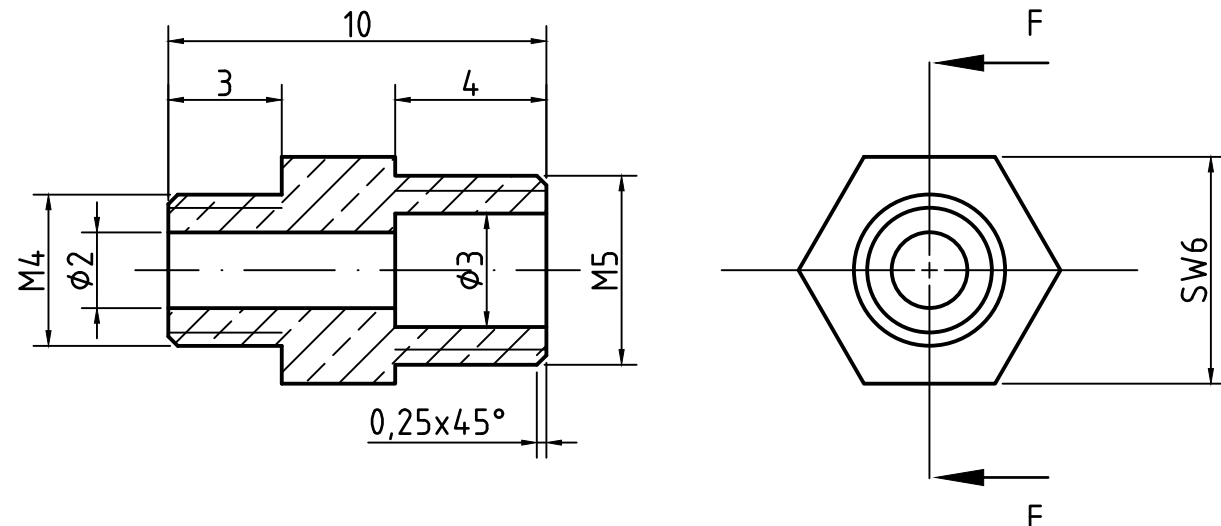
15. Nippelmutter  
M 5:1 (Messing)



17. Steg  
M 5:1 (Messing)

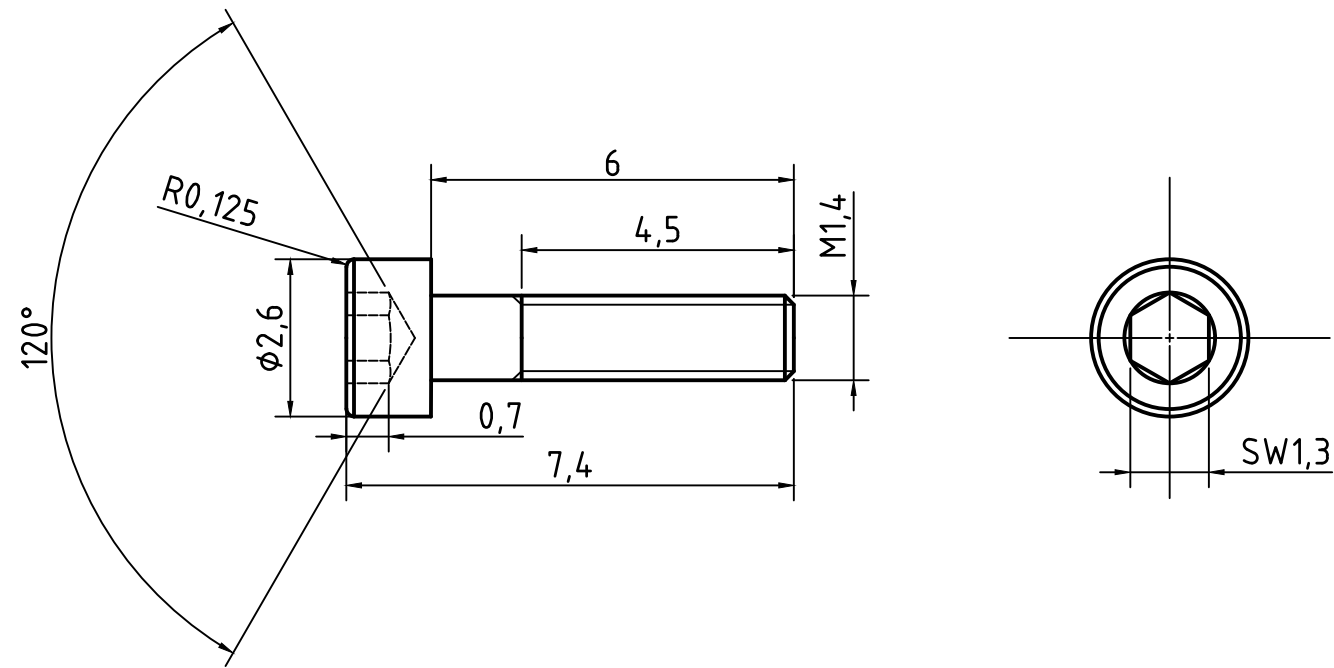


14. Nippel  
M 5:1 (Messing)

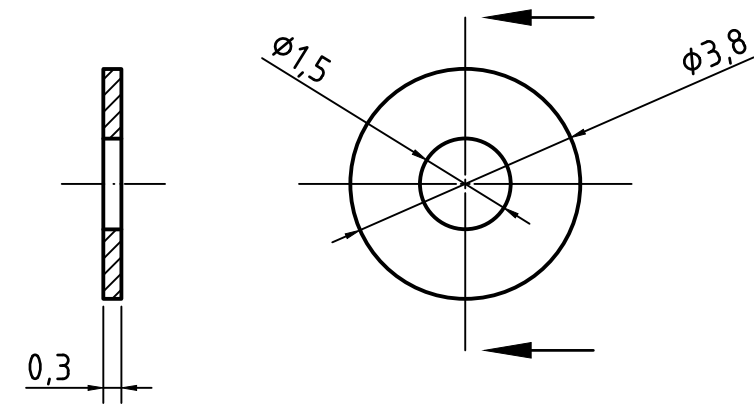


	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 5:1 10:1 mm	Kurbelzapfen, Pendelmutter, Nippel, Nippelmutter, Pendelachse, Steg, Reling		ZEICHNUNG 7 A3

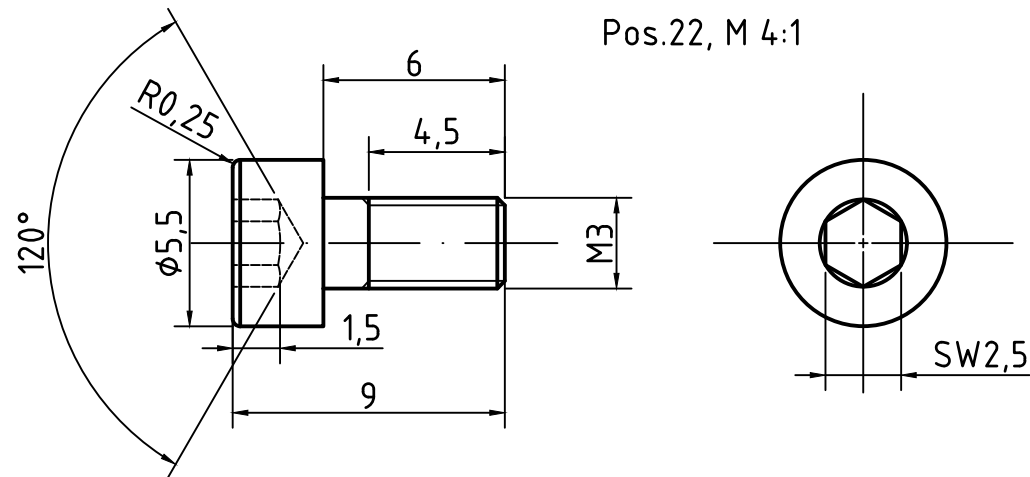
Pos.20, M 8:1



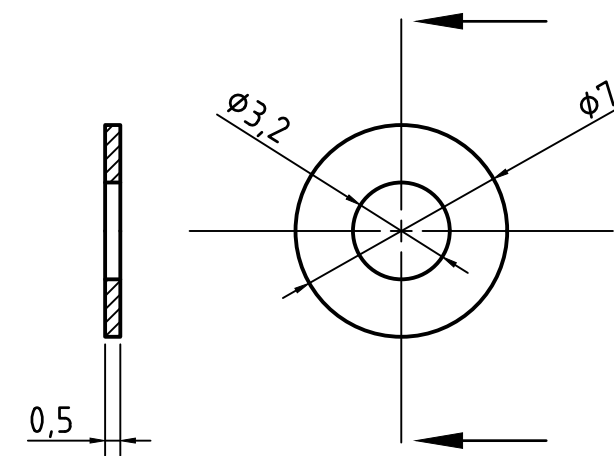
Pos.21, M 8:1



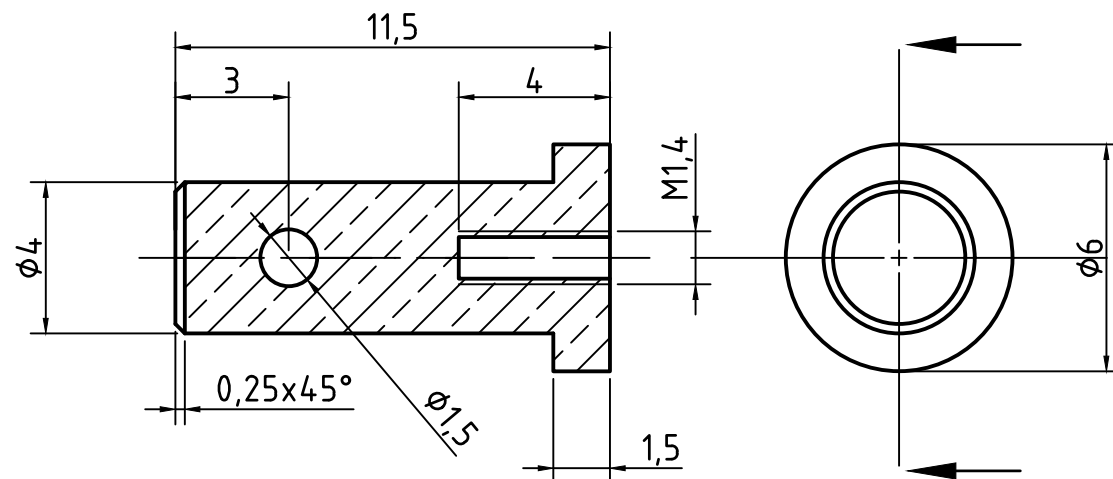
Pos.22, M 4:1



Pos.23, M 4:1



19. Mittelsteg  
M 5:1 (Messing)



	DATUM	NAME	Alfatraining Karlsruhe
GEZEICHNET	03.06.2026	V.Hubanov	
GEPRÜFT	05.06.2026	K.Klein	
M 4:1 8:1 5:1 mm	Mittelsteg, Pos.20, Pos.21, Pos.22, Pos.23		ZEICHNUNG 8
			A3