

H7N



Operating range

Shaft diameter:
 $d_1 = 14 \dots 100 \text{ mm}$ (0.55" ... 3.94")
 (Single spring: $d_1 = \text{max. } 100 \text{ mm}$ (3.94"))
 Pressure:
 $p_1 = 80 \text{ bar}$ (1,160 PSI) for $d_1 = 14 \dots 100 \text{ mm}$,
 $p_1 = 25 \text{ bar}$ (363 PSI) for $d_1 = 100 \dots 200 \text{ mm}$,
 $p_1 = 16 \text{ bar}$ (232 PSI) for $d_1 > 200 \text{ mm}$
 Temperature:
 $t = -50 \text{ }^\circ\text{C} \dots 220 \text{ }^\circ\text{C}$ (-58 °F ... 428 °F)
 Sliding velocity: $vg = 20 \text{ m/s}$ (66 ft/s)
 Axial movement:
 d_1 up to 22 mm: $\pm 1.0 \text{ mm}$
 d_1 24 up to 58 mm: $\pm 1.5 \text{ mm}$
 d_1 from 60 mm: $\pm 2.0 \text{ mm}$

Recommended applications

- Process industry
- Oil and gas industry
- Refining technology
- Petrochemical industry
- Chemical industry
- Power plant technology
- Pulp and paper industry
- Food and beverage industry
- Hot water applications
- Light hydrocarbons
- Boiler feed pumps
- Process pumps

Features

- For stepped shafts
- Single seal
- Balanced
- Super-Sinus-spring or multiple springs rotating
- Independent of direction of rotation
- Integrated pumping device available (H7F, H75F)
- Variant with seat cooling available (H75G115)

Materials

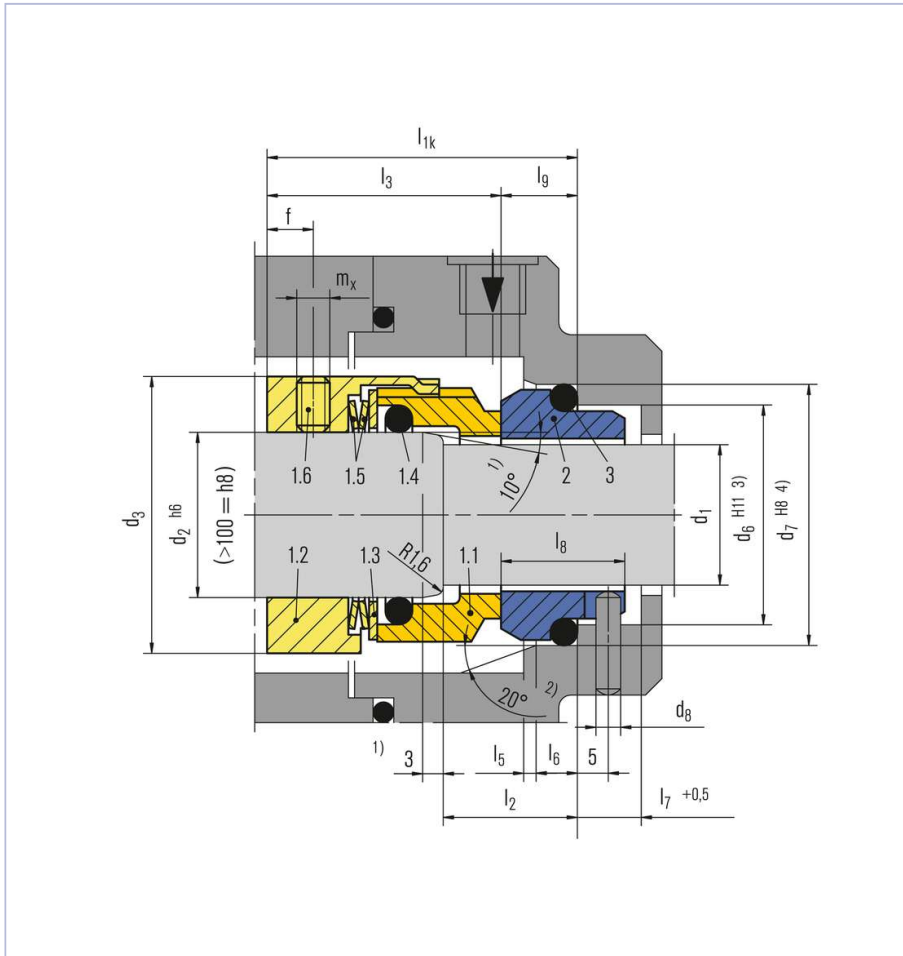
Seal face: Silicon carbide (Q1, Q2), Carbon graphite antimony impregnated (A), Aluminium oxide (V), CrMo cast steel (S)
 Seat G9: Carbon graphite antimony impregnated (A), Carbon graphite resin impregnated (B), Silicon carbide (Q1*, Q2*)
 Secondary seals: EPDM (E), NBR (P), FKM (V), FFKM (K)
 Springs: CrNiMo steel (G)
 Metal parts: CrNiMo steel (G), Duplex (G1)
 * Cannot be combined with seal face made of S

Advantages

- Universal application opportunities (standardization)
- Efficient stock keeping due to easily interchangeable faces
- Extended selection of materials
- Flexibility in torque transmissions
- Self cleaning effect
- Short Installation length possible (G16)

Standards and approvals

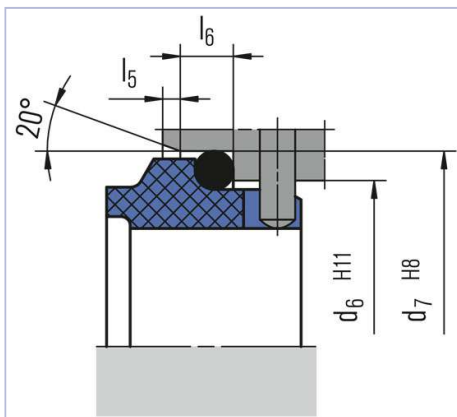
- EN 12756



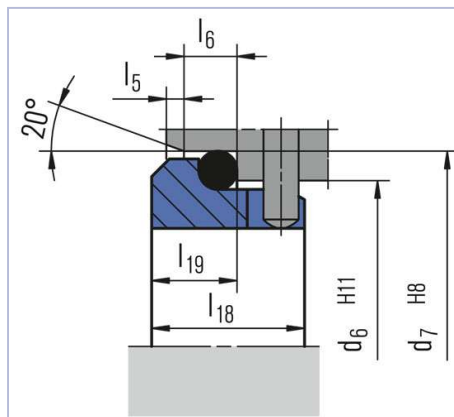
Item	Part no. to DIN 24250	Description
1.1	472	Seal face
1.2	485	Drive collar
1.3	474	Thrust ring
1.4	412.1	O-Ring
1.5	477	Spring
1.6	904	Set screw
2	475	Seat (G9)
3	412.2	O-Ring

- 1) $d_1 > 100$ mm: 2 mm x 30°
- 2) $d_1 > 100$ mm: 30°
- 3) $d_1 > 100$ mm: +0.1
- 4) $d_1 > 100$ mm: H7

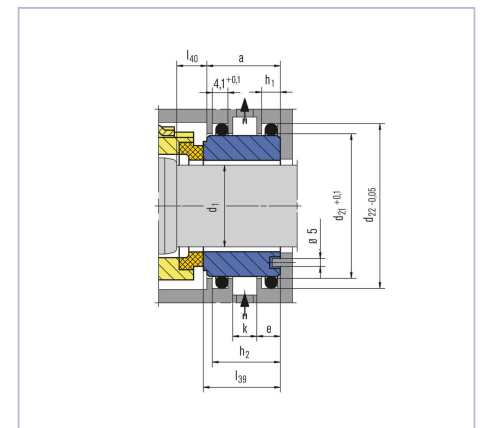
Seat alternatives



G9
(EN 12756)

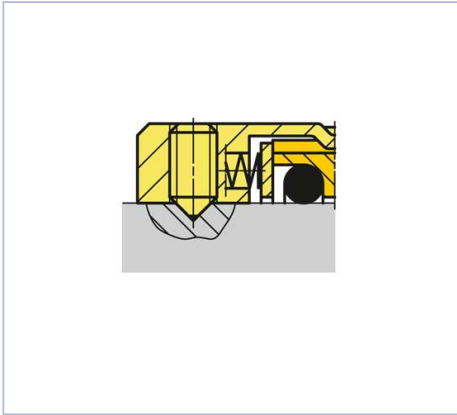


G16
(EN 12756, but l_{1k} and l_2 are shorter than specified)

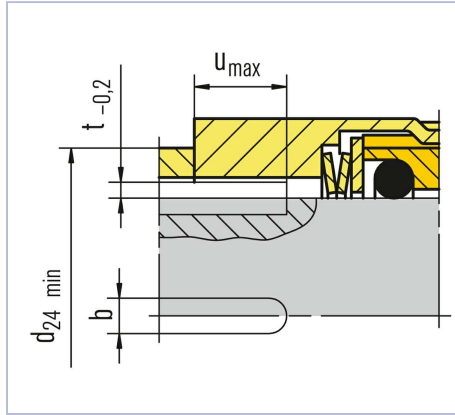


G115
Cooled seat especially for hot water applications.

Torque transmissions

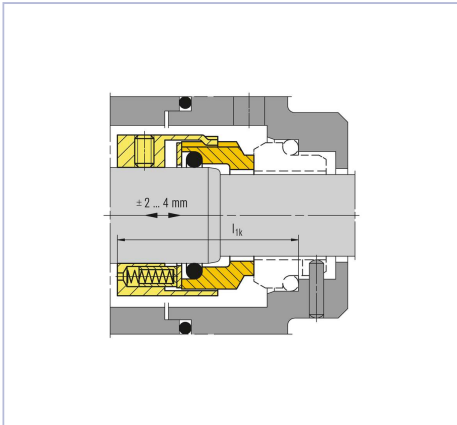


$d_1 > 100$ mm (3.94") Torque transmission by 4 set screws with cone point. Offset: 90°

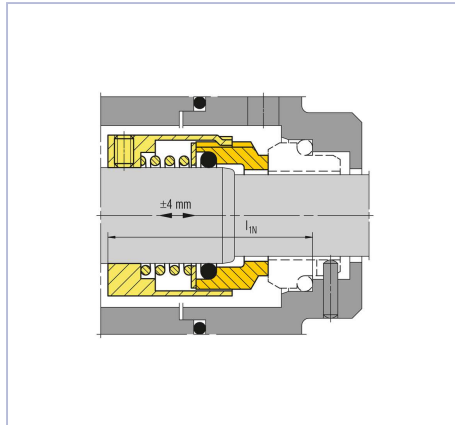


Drive key
(H7S2 / H75S2)

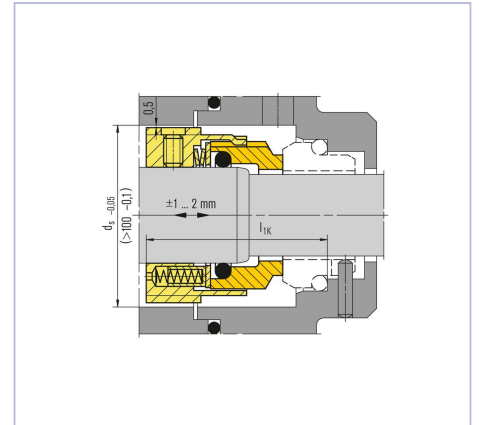
Product variants



H75
Shaft diameter: $d_1 = 28 \dots 200$ mm (1.10" ... 7.87")
As H7N, but with multiple springs in sleeves (Item no. 1.5)
Axial movement: $\pm 2 \dots 4$ mm, dependent on diameter.



H76
Shaft diameter: $d_1 = 14 \dots 100$ mm (0.55" ... 3.94")
Dimensions, items and description as for H7N, but with special single spring (Item no. 1.5) for compensating large axial movements (± 4 mm).



H7F
Shaft diameter: $d_1 = \max. 100$ mm (3.94")
Dimensions, items and descriptions as for H7N, but with single spring and pumping screw.
Dependent on direction of rotation. (Viscosity \leq ISO VG10).

H75F
Shaft diameter: $d_1 = 28 \dots 200$ mm (1.10" ... 7.87")
Dimensions, items and descriptions as for H7N, but with single spring and pumping screw.
Dependent on direction of rotation. (Viscosity \leq ISO VG10).

Dimensions

d ₁	d ₂	d ₃	d ₆	d ₇ d ₈	d ₂₄	d ₂₁	d ₂₂	d _s	l _{1K}	l _{1N}	l ₂	l ₃	l ₅	l ₆	l ₇	l ₈	l ₉	l ₃₉	l ₄₀	A	b	e	f	h ₁	h ₂	k	m _x U _{max.}	t	
14*	18	33	21.0	25.0 3	20	-	-	38	42.5	-	18	32.5	1.5	4	8.5	17.5	10.0	-	-	-	5	-	6.0	-	-	-	M5	_9	1.1
16*	20	35	23.0	27.0 3	22	-	-	40	42.5	-	18	32.5	1.5	4	8.5	17.5	10.0	-	-	-	5	-	6.0	-	-	-	M5	9	1.1
18*	22	37	27.0	33.0 3	24	-	-	42	45.0	55	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	7.0	-	-	-	M5	9	1.5
20*	24	39	29.0	35.0 3	26	-	-	44	45.0	60	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	M5	9	1.5
22*	26	41	31.0	37.0 3	28	-	-	45	45.0	60	20	33.5	2.0	5	9.0	19.5	11.5	-	-	-	6	-	8.0	-	-	-	M5	9	1.5
24*	28	43	33.0	39.0 3	30	-	-	47	47.5	60	20	36.0	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	M6	9	1.5
25*	30	45	34.0	40.0 3	32	-	-	49	47.5	60	20	36.0	2.0	5	9.0	19.5	11.5	-	-	-	6	-	5.5	-	-	-	M6	9	1.5
28*	33	48	37.0	43.0 3	35	44.65	50.57	51	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.0	8.5	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
30*	35	50	39.0	45.0 3	37	47.83	53.75	54	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
32*	38	55	42.0	48.0 3	40	47.83	53.75	59	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
33*	38	55	42.0	48.0 3	40	47.83	53.75	59	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
35*	40	57	44.0	50.0 3	42	51.00	56.92	61	50.0	65	20	38.5	2.0	5	9.0	19.5	11.5	24.5	9.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
38*	43	60	49.0	56.0 4	45	54.18	60.10	65	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
40*	45	62	51.0	58.0 4	47	60.53	66.45	66	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
43*	48	65	54.0	61.0 4	50	63.70	69.62	69	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
45*	50	67	56.0	63.0 4	52	63.70	69.62	71	52.5	75	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
48*	53	70	59.0	66.0 4	55	66.88	72.80	75	52.5	85	23	38.5	2.0	6	9.0	22.0	14.0	26.0	11.0	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
50*	55	72	62.0	70.0 4	57	70.05	75.97	76	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	26.5	12.5	24.0	6	8.0	8.0	6.6	22.6	9	M6	12	1.5
53*	58	79	65.0	73.0 4	60	76.40	82.32	83	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	26.5	12.5	24.0	8	8.0	9.0	6.6	22.6	9	M8	12	1.9
55*	60	81	67.0	75.0 4	62	76.40	82.32	85	57.5	85	25	42.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	12	1.9
58*	63	84	70.0	78.0 4	65	79.58	85.50	88	62.5	85	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9
60*	65	86	72.0	80.0 4	67	82.75	88.67	95	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9
63*	68	89	75.0	83.0 4	70	85.93	91.85	93	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	14	1.9
65*	70	91	77.0	85.0 4	72	85.93	91.85	95	62.5	95	25	47.5	2.5	6	9.0	23.0	15.0	28.5	12.5	26.0	8	8.0	9.0	6.6	24.6	11	M8	15	1.9
70*	75	99	83.0	92.0 4	77	89.10	95.02	105	70.0	95	28	52.0	2.5	7	9.0	26.0	18.0	30.5	14.5	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9
75*	80	104	88.0	97.0 4	82	98.63	104.55	109	70.0	105	28	52.0	2.5	7	9.0	26.0	18.0	30.5	14.5	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9
80*	85	109	95.0	105.0 4	87	101.80	107.72	114	70.0	105	28	51.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	8	8.0	10.0	6.6	24.6	11	M8	15	1.9
85*	90	114	100.0	110.0 4	92	108.15	114.07	119	75.0	105	28	56.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3
90*	95	119	105.0	115.0 4	97	114.50	120.42	124	75.0	105	28	56.8	3.0	7	9.0	26.2	18.2	30.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3
95*	100	124	110.0	120.0 4	102	117.68	123.60	129	75.0	105	28	57.8	3.0	7	9.0	25.2	17.2	29.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3
100*	105	129	115.0	125.0 4	107	124.03	129.95	134	75.0	105	28	57.8	3.0	7	9.0	25.2	17.2	29.2	14.0	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3
105*	115	148	122.2	134.3 5	118	128.98	134.90	153	73.0	-	32	53.0	2.0	10	-	30.0	20.0	29.2	15.2	26.0	10	8.0	10.0	6.6	24.6	11	M8	18	2.3
110*	120	153	128.2	140.3 5	123	135.30	141.20	158	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
115*	125	158	136.2	148.3 5	128	140.30	146.20	163	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
120*	130	163	138.2	150.3 5	133	145.30	151.20	168	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
125*	135	168	142.2	154.3 5	138	150.30	156.20	173	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
130*	140	173	146.2	158.3 5	143	155.30	161.20	178	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
135*	145	178	152.2	164.3 5	148	160.30	166.20	183	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
140*	150	183	156.2	168.3 5	153	165.30	171.20	188	73.0	-	32	53.0	2.0	10	-	30.0	20.0	32.5	14.5	30.0	10	9.5	10.0	6.6	28.6	13	M8	18	2.3
145*	155	191	161.2	173.3 5	158	172.30	178.20	196	83.0	-	34	63.0	2.0	10	-	30.0	20.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1
150*	160	196	168.2	180.3 5	163	177.30	183.20	201	85.0	-	36	63.0	2.0	10	-	32.0	22.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1
155*	165	201	173.2	185.3 5	168	182.30	188.20	206	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1
160*	170	206	178.2	190.3 5	173	187.30	193.20	211	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1

	d ₁	d ₂	d ₃	d ₆	d ₇ d ₈	d ₂₄	d ₂₁	d ₂₂	d _s	l _{1K}	l _{1N}	l ₂	l ₃	l ₅	l ₆	l ₇	l ₈	l ₉	l ₃₉	l ₄₀	A	b	e	f	h ₁	h ₂	k	m _x U _{max.}	t	
165*	175	211	183.2	195.3	5	178	192.30	198.20	216	87.0	-	38	63.0	2.0	12	-	34.0	24.0	34.5	16.5	32.0	12	10.0	12.0	7.1	30.1	14	M8	22	2.1
170*	180	216	188.2	200.3	5	183	197.30	203.20	221	87.0	-	38	63.0	2.0	12	-	34.0	24.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1
175*	185	221	193.2	205.3	5	188	202.30	208.20	226	87.0	-	38	63.0	2.0	12	-	34.0	24.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1
180*	190	226	207.5	219.3	5	193	207.30	213.20	231	91.0	-	42	63.0	2.0	12	-	38.0	28.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1
185*	195	231	212.5	224.3	5	198	212.30	218.20	236	91.0	-	42	63.0	2.0	12	-	38.0	28.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1
190*	200	236	217.5	229.3	5	203	217.30	223.20	241	91.0	-	42	63.0	2.0	12	-	38.0	28.0	37.0	16.5	34.5	12	10.0	12.0	7.1	32.1	16	M8	22	2.1
195*	205	245	222.5	234.2	5	208	225.30	231.20	250	94.0	-	43	66.0	2.0	12	-	38.0	28.0	37.0	17.5	34.5	12	10.0	14.0	7.1	32.1	16	M10	22	2.1
200*	210	250	227.5	239.3	5	213	230.30	236.20	255	94.0	-	43	66.0	2.0	12	-	38.0	28.0	37.0	17.5	34.5	12	10.0	14.0	7.1	32.1	16	M10	22	2.1

Dimensions in millimeter

* EN 12756