BS ISO 6020-2:2015

BSI Standards Publication

Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series

Part 2: Compact series

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National foreword

This British Standard is the UK implementation of ISO 6020-2:2015. It supersedes BS ISO 6020-2:2006 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/18/-/3, Cylinders.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2015

ISBN 978 0 580 83205 5

ICS 23.100.20

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 August 2015.

Amendments/corrigenda issued since publication

Date	Text affected

BS ISO 6020-2:2015

INTERNATIONAL STANDARD

ISO 6020-2

Fourth edition
2015-08-15

Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series —

Part 2: Compact series

Transmissions hydrauliques — Dimensions d'interchangeabilité des vérins 16 MPa (160 bar) à simple tige —

Partie 2: Série compacte

Reference number
ISO 6020-2:2015(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 131, *Fluid power systems*, Subcommittee SC 3, *Cylinders*.

This fourth edition cancels and replaces the third edition (ISO 6020-2:2006), which has been technically revised to incorporate Technical Corrigendum 1, published 2008-10-15.

ISO 6020 consists of the following parts, under the general title *Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series*:

— *Part 1: Medium series*

— *Part 2: Compact series*

— *Part 3: Compact series with bores from 250 mm to 500 mm*

Introduction

In hydraulic fluid power systems, power is transmitted and controlled through a liquid under pressure within an enclosed circuit.

One component of such systems is the cylinder. This is a device that converts fluid power into linear mechanical force and motion. It consists of a moveable element, i.e. a piston and piston rod, operating within a cylindrical bore.

INTERNATIONAL STANDARD ISO 6020-2:2015(E)

Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series —

Part 2: Compact series

1 Scope

This part of ISO 6020 establishes metric mounting dimensions for compact series cylinders, 16 MPa [160 bar[1)]], as required for interchangeability of commonly-used hydraulic cylinders.

NOTE 1 This part of ISO 6020 allows manufacturers of hydraulic equipment flexibility in the design of metric cylinders and does not restrict technical development; however, it does provide basic guidelines.

NOTE 2 The compact series dimensions are most applicable to square head cylinders.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 273, *Fasteners — Clearance holes for bolts and screws*

ISO 3320, *Fluid power systems and components — Cylinder bores and piston rod diameters and area ratios — Metric series*

ISO 5598, *Fluid power systems and components — Vocabulary*

ISO 6099, *Fluid power systems and components — Cylinders — Identification code for mounting dimensions and mounting types*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5598 apply.

4 Dimensions

4.1 Mounting dimensions for cylinders manufactured in accordance with this part of ISO 6020 shall be selected from Figures 1 to 13 and Tables 1 to 13.

4.2 Port and flange sizes and dimensions shall be selected from Table 14 and in the respective International Standards cited therein.

4.3 All the dimensions and methods of mounting in this part of ISO 6020 are identified by codes in accordance with ISO 6099.

4.4 Tolerances for mounting dimensions shall be in accordance with Table 15.

1) 1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm^2.

5 Bore sizes

This part of ISO 6020 includes the following bore sizes, in millimetres, in accordance with ISO 3320:

25 — 32 — 40 — 50 — 63 — 80 — 100 — 125 — 160 — 200.

NOTE Mounting dimensions for compact hydraulic single rod cylinders with bores from 250 mm to 500 mm are specified in ISO 6020-3.

6 Piston stroke tolerances

The tolerance on piston strokes shall be as follows:

— piston strokes ≤ 1 250 mm: +2/-0 mm;

— piston strokes > 1 250 mm and ≤ 3 150: +5/−0 mm;

— piston strokes > 3 150 mm and ≤ 8 000: +8/−0 mm.

7 Mounting types

This part of ISO 6020 includes the following mounting types, in accordance with ISO 6099:

— ME 5 — Head, rectangular (see Figure 2 and Table 2)

— ME 6 — Cap, rectangular (see Figure 3 and Table 3)

— MP 1 — Cap, fixed clevis (see Figure 4 and Table 4)

— MP 3 — Cap, fixed plain eye (see Figure 5 and Table 5)

— MP 5 — Cap, fixed eye with spherical bearing (see Figure 6 and Table 6)

— MS 2 — Side lugs (see Figure 7 and Table 7)

— MT 1 — Head, integral trunnion (male) (see Figure 8 and Table 8)

— MT 2 — Cap, integral trunnion (male) (see Figure 9 and Table 9)

— MT 4 — Intermediate trunnion (male) with selectable position (see Figure 10 and Table 10)

— MX 1 — Both ends studs or tie rods extended (see Figure 11 and Table 11)

— MX 2 — Cap studs or tie rods extended (see Figure 12 and Table 12)

— MX 3 — Head studs or tie rods extended (see Figure 13 and Table 13)

8 Piston rod characteristics

8.1 This part of ISO 6020 covers piston rods that have shouldered male thread ends; see Figure 1 and Table 1 for basic dimensions.

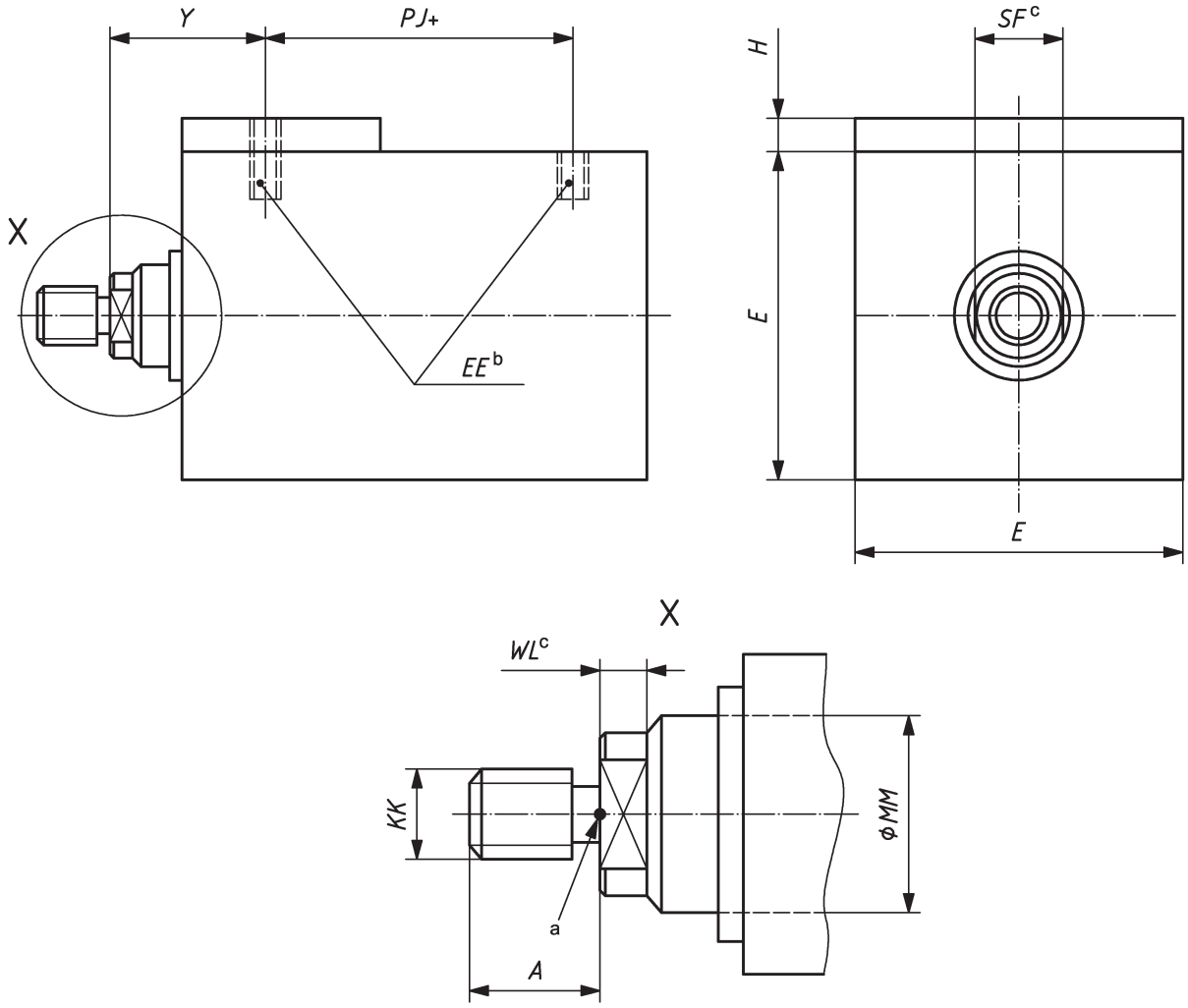
8.2 For rod end types, see ISO 4395.

8.3 For accessories, see ISO 8133.

9 Identification statement (reference to this part of ISO 6020)

It is strongly recommended to fabricators who elect to conform to this part of ISO 6020 to use the following statement in test reports, catalogues and sales literature:

"Interchangeable mounting dimensions selected in accordance with ISO 6020-2, *Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series — Part 2: Compact series.*"



Key

a Reference point.

b See Table 14 for port options.

c Dimensions *SF* and *WL* are controlled by ISO 4395.

Figure 1 — General dimensions

Table 1 — General dimensions

Dimensions in millimetres

Bore	Rod *MM*[a]	*KK*[a] 6g	*A* max.	*H* max.	*E*	*Y*[b]	*PJ*[c] ±1,5
25	12	M10 × 1,25	14	5	40 ± 1,5	50	53
	18	M10 × 1,25 M14 × 1,5	14 18				
32	14	M12 × 1,25	16	5	45 ± 1,5	60	56
	22	M12 × 1,25 M16 × 1,5	16 22				
40	18	M14 × 1,5	18	—	63 ± 1,5	62	73
	22	M14 × 1,5 M16 × 1,5	18 22				
	28	M14 × 1,5 M20 × 1,5	18 28				
50	22	M16 × 1,5	22	—	75 ± 1,5	67	74
	28	M16 × 1,5 M20 × 1,5	22 28				
	36	M16 × 1,5 M27 × 2	22 36				
63	28	M20 × 1,5	28	—	90 ± 1,5	71	80
	36	M20 × 1,5 M27 × 2	28 36				
	45	M20 × 1,5 M33 × 2	28 45				
80	36	M27 × 2	36	—	115 ± 1,5	77	93
	45	M27 × 2 M33 × 2	36 45				
	56	M27 × 2 M42 × 2	36 56				
100	45	M33 × 2	45	—	130 ± 2	82	101
	56	M33 × 2 M42 × 2	45 56				
	70	M33 × 2 M48 × 2	45 63				
125	56	M42 × 2	56	—	165 ± 2	86	117
	70	M42 × 2 M48 × 2	56 63				
	90	M42 × 2 M64 × 3	56 85				
160	70	M48 × 2	63	—	205 ± 2	86	130
	90	M48 × 2 M64 × 3	63 85				

[a] If other piston rod diameters or other piston rod threads are required, use those identified in ISO 3320 and ISO 4395.

[b] The tolerance on dimension *Y* is dependent on stroke; see Table 15.

[c] The tolerance on dimension *PJ* shall be added to the tolerance on the stroke.

Table 1 *(continued)*

Bore	Rod *MM*[a]	*KK*[a] 6g	*A* max.	*H* max.	*E*	*Y*[b]	*PJ*[c] ±1,5
	110	M48 × 2 M80 × 3	63 95				
200	90	M64 × 3	85	—	245 ± 2	98	165
	110	M64 × 3 M80 × 3	85 95				
	140	M64 × 3 M100 × 3	85 112				

a If other piston rod diameters or other piston rod threads are required, use those identified in ISO 3320 and ISO 4395.

b The tolerance on dimension *Y* is dependent on stroke; see Table 15.

c The tolerance on dimension *PJ* shall be added to the tolerance on the stroke.

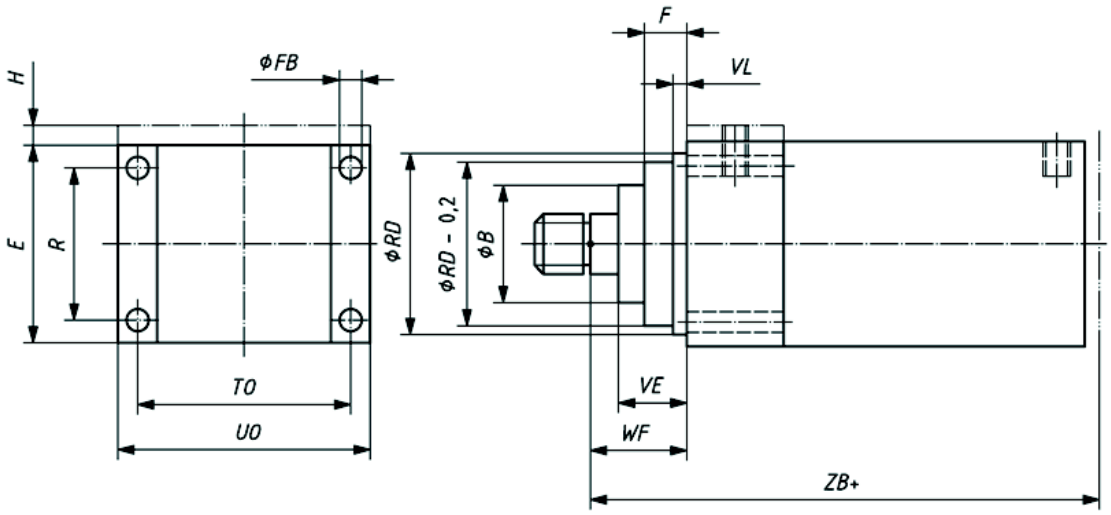


Figure 2 — ME 5 — Head, rectangular

Table 2 — Dimensions of head, rectangular

Dimensions in millimetres

Bore	Rod *MM*	*RD* f8	OD	E	*TO* js13	*FB*[b] H13	*R* js13	*WF* ±2	*F* max.	*VE* max.	*VL* min.	*B* max.	*UO* max.	*ZB*[c]	*H* max.
25	12	38		40 ± 1,5	51	5,5	27	25	10	16	3	24	65	121	5
	18											30			
32	14	42		45 ± 1,5	58	6,6	33	35	10	22	3	26	70	137	5
	22											34			
	18											30			

a *OD* shall be smaller than *RD*.

b Hole in accordance with ISO 273, medium series.

c The tolerance for dimension *ZB* is dependent on stroke; see Table 15.

Table 2 *(continued)*

Bore	Rod *MM*	*RD* f8	OD	E	*TO* js13	*FB*[b] H13	*R* js13	*WF* ±2	*F* max.	*VE* max.	*VL* min.	*B* max.	*UO* max.	*ZB*[c]	*H* max.
40	22	62		63 ± 1,5	87	11	41	35	10	22	3	34	110	166	—
	28											42			
50	22	74		75 ± 1,5	105	14	52	41	16	25	4	34	130	176	—
	28											42			
	36											50			
63	28	75	[a]	90 ± 1,5	117	14	65	48	16	29	4	42	145	185	—
	36	88										50			
	45	88										60			
80	36	82		115 ± 1,5	149	18	83	51	20	29	4	50	180	212	—
	45	105										60			
	56	105										72			
100	45	92		130 ± 2	162	18	97	57	22	32	5	60	200	225	—
	56	125										72			
	70	125										88			
125	56	105		165 ± 2	208	22	126	57	22	32	5	72	250	260	—
	70	150										88			
	90	150										108			
160	70	125		205 ± 2	253	26	155	57	25	32	5	88	300	279	—
	90	170										108			
	110	170										133			
200	90	150		245 ± 2	300	33	190	57	25	32	5	108	360	336	—
	110	210										133			
	140	210										163			

[a] *OD* shall be smaller than *RD*.

[b] Hole in accordance with ISO 273, medium series.

[c] The tolerance for dimension *ZB* is dependent on stroke; see Table 15.

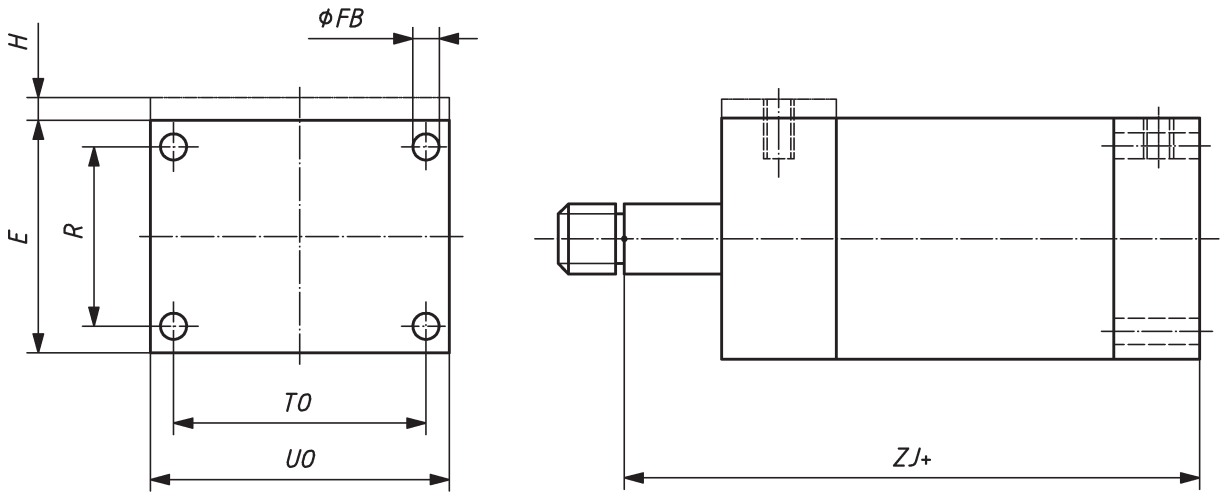


Figure 3 — ME 6 — Cap, rectangular

Table 3 — Dimensions of cap, rectangular

Dimensions in millimetres

Bore	*E*	*TO* js13	*FB*[a] H13	*R* js13	*ZJ*[b]	*UO* max.	*H* max.
25	40 ± 1,5	51	5,5	27	114	65	5
32	45 ± 1,5	58	6,6	33	128	70	5
40	63 ± 1,5	87	11	41	153	110	—
50	75 ± 1,5	105	14	52	159	130	—
63	90 ± 1,5	117	14	65	168	145	—
80	115 ± 1,5	149	18	83	190	180	—
100	130 ± 2	162	18	97	203	200	—
125	165 ± 2	208	22	126	232	250	—
160	205 ± 2	253	26	155	245	300	—
200	245 ± 2	300	33	190	299	360	—

[a] Hole in accordance with ISO 273, medium series.

[b] The tolerance on dimension *ZJ* is dependent on stroke; see Table 15.

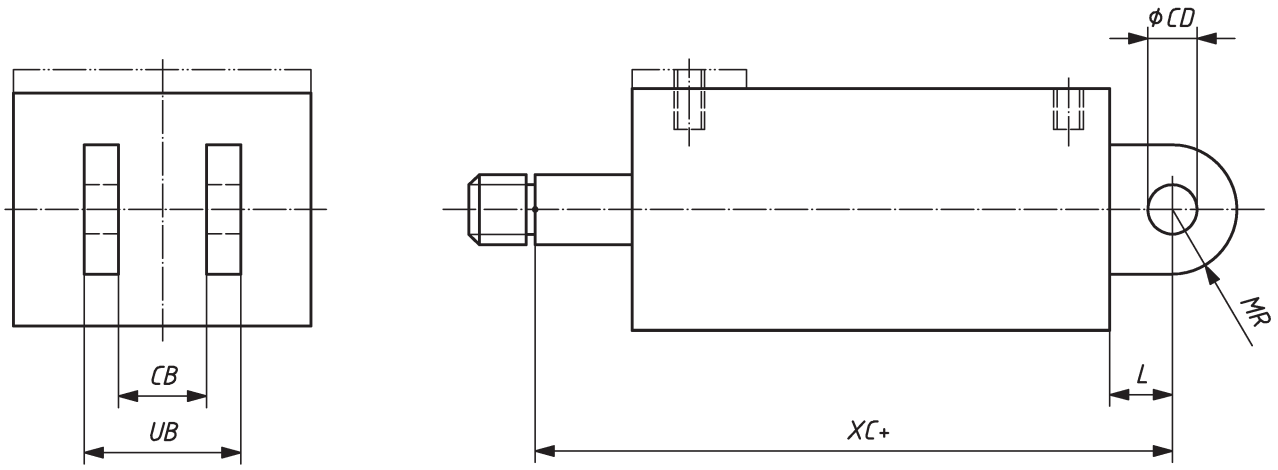


Figure 4 — MP 1 — Cap, fixed clevis

Table 4 — Dimensions of cap, fixed clevis

Dimensions in millimetres

Bore	*CB* A13	*CD* H9	*MR* max.	*L* min.	*UB* max.	*XC*[a]
25	12	10	12	13	25	127
32	16	12	17	19	34	147
40	20	14	17	19	42	172
50	30	20	29	32	62	191
63	30	20	29	32	62	200
80	40	28	34	39	83	229
100	50	36	50	54	103	257
125	60	45	53	57	123	289
160	70	56	59	63	143	308
200	80	70	78	82	163	381

[a] The tolerance on dimension *XC* is dependent on stroke; see Table 15.

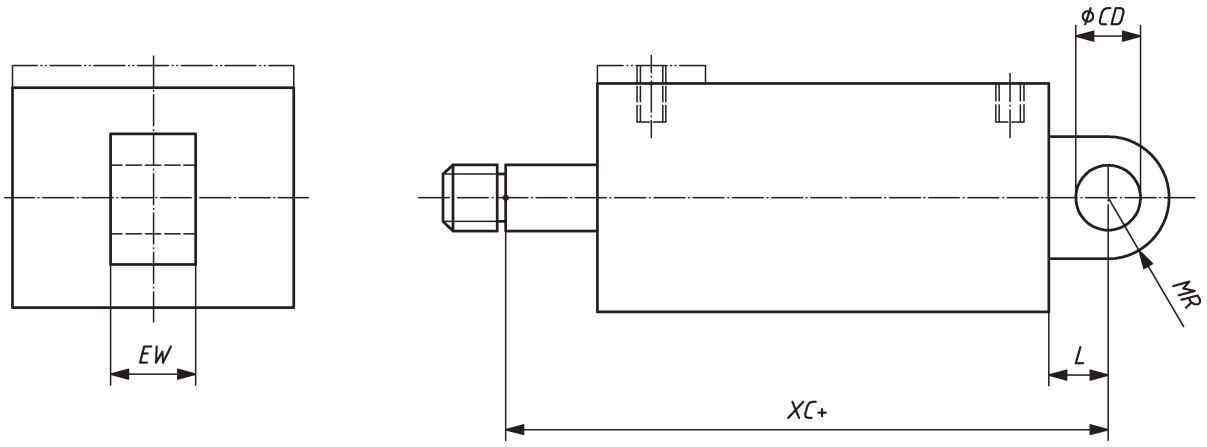


Figure 5 — MP 3 — Cap, fixed plain eye

Table 5 — Dimensions of cap, fixed plain eye

Dimensions in millimetres

Bore	***EW*** h14	***CD*** H9	***MR*** max.	***L*** min.	***XC***[a]
25	12	10	12	13	127
32	16	12	17	19	147
40	20	14	17	19	172
50	30	20	29	32	191
63	30	20	29	32	200
80	40	28	34	39	229
100	50	36	50	54	257
125	60	45	53	57	289
160	70	56	59	63	308
200	80	70	78	82	381

[a] The tolerance on dimension XC is dependent on stroke; see Table 15.

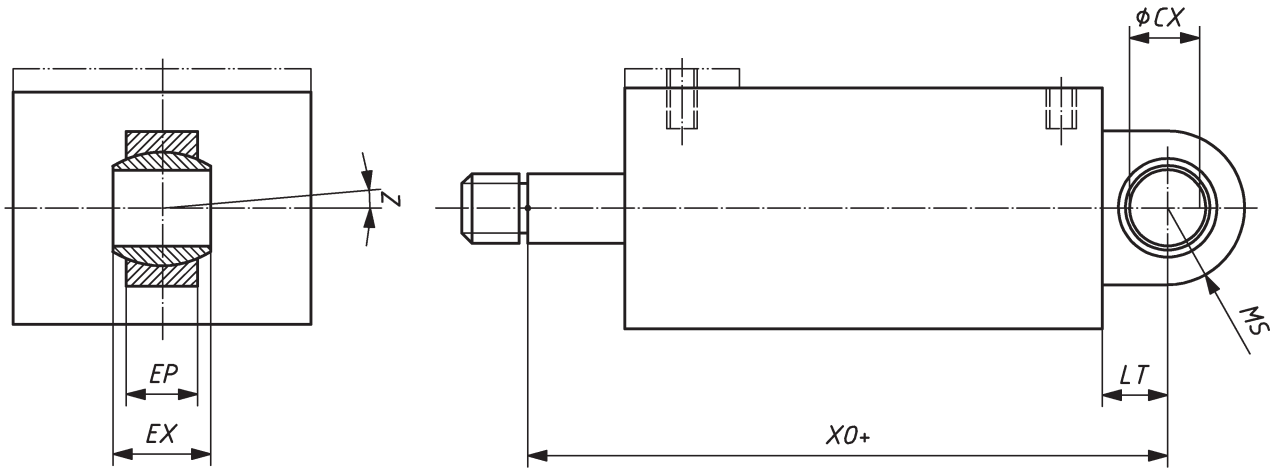


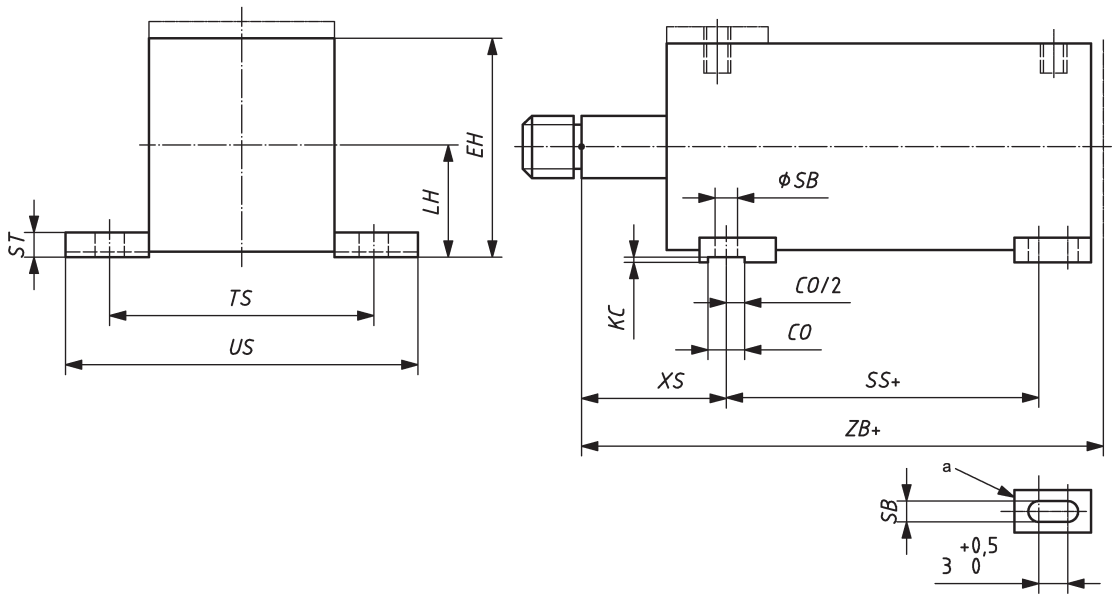
Figure 6 — MP 5 — Cap, fixed eye with spherical bearing

Table 6 — Dimensions on cap, fixed eye with spherical bearing

Dimensions in millimetres

Bore	*EP*	*EX*		*CX*		*MS*	*LT*	*XO*[a]	*Z*
	max.	nom.	tol.	nom.	tol.	max.	min.		min.
25	8	10	0 −0,12	12	0 −0,008	20	16	130	3°
32	11	14	0 −0,12	16	0 −0,008	22,5	20	148	
40	13	16	0 −0,12	20	0 −0,012	29	25	178	
50	17	20	0 −0,12	25	0 −0,012	33	31	190	
63	19	22	0 −0,12	30	0 −0,012	40	38	206	
80	23	28	0 −0,12	40	0 −0,012	50	48	238	
100	30	35	0 −0,12	50	0 −0,012	62	58	261	
125	38	44	0 −0,15	60	0 −0,015	80	72	304	
160	47	55	0 −0,15	80	0 −0,015	100	92	337	
200	57	70	0 −0,20	100	0 −0,020	120	116	415	

[a] The tolerance on dimension *XO* is dependent on stroke; see Table 15.



Key

a Two lugs.

Figure 7 — MS 2 —Side lugs

Table 7 — Dimensions of side lugs

Dimensions in millimetres

Bore	*TS*	*SB*[a]	*LH*	*XS*[b]	*SS*[b]	*ZB*	*ST*	*US*	*CO*[c]	*KC*[c]	*EH*	
	js13	H13	h10			max.	js13	max.	N9	min.	nom.	tol.
25	54	6,6	19	33	72	121	8,5	72	—	—	39	±1,5
32	63	9	22	45	72	137	12,5	84	—	—	44,5	±1,5
40	83	11	31	45	97	166	12,5	103	12	4	62,5	±1,5
50	102	14	37	54	91	176	19	127	12	4,5	74,5	±1,5
63	124	18	44	65	85	185	26	161	16	4,5	89	±1,5
80	149	18	57	68	104	212	26	186	16	5	114,5	±1,5
100	172	26	63	79	101	225	32	216	16	6	128	±2
125	210	26	82	79	130	260	32	254	20	6	164,5	±2
160	260	33	101	86	129	279	38	318	30	8	203,5	±2
200	311	39	122	92	171	336	44	381	40	8	244,5	±2

a Hole in accordance with ISO 273, medium series.

b The tolerances on dimensions *XS* and *SS* are dependent on stroke; see Table 15.

c Keyway is optional.

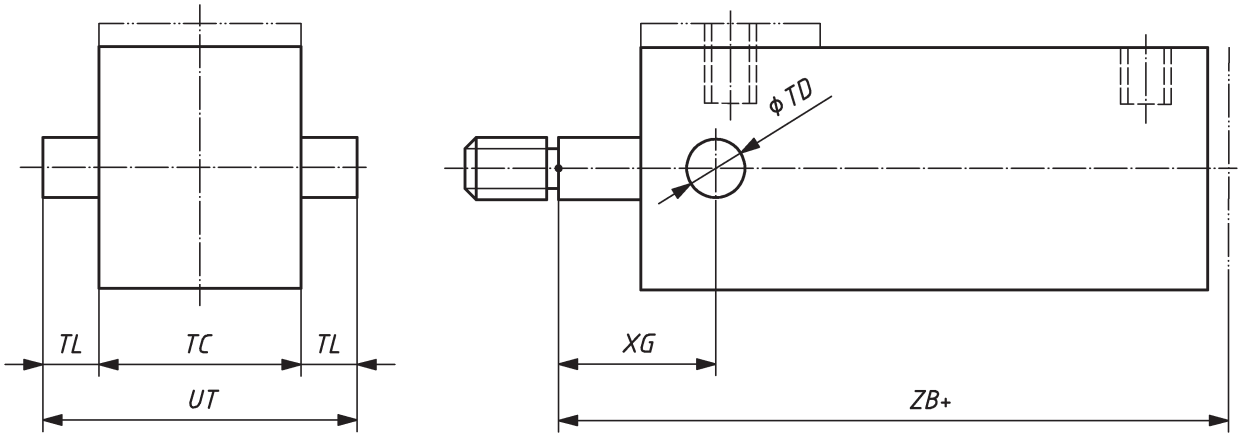


Figure 8 — MT 1 — Head, integral trunnion (male)

Table 8 — Dimensions of head, integral trunnion (male)

Dimensions in millimetres

Bore	***TC*** h14	***UT*** ref.	***TD*** f8	***TL*** js13	***XG***[a]	***ZB*** max.
25	38	58	12	10	44	121
32	44	68	16	12	54	137
40	63	95	20	16	57	166
50	76	116	25	20	64	176
63	89	139	32	25	70	185
80	114	178	40	32	76	212
100	127	207	50	40	71	225
125	165	265	63	50	75	260
160	203	329	80	63	75	279
200	241	401	100	80	85	336

[a] The tolerance on dimension *XG* is dependent on stroke; see Table 15.

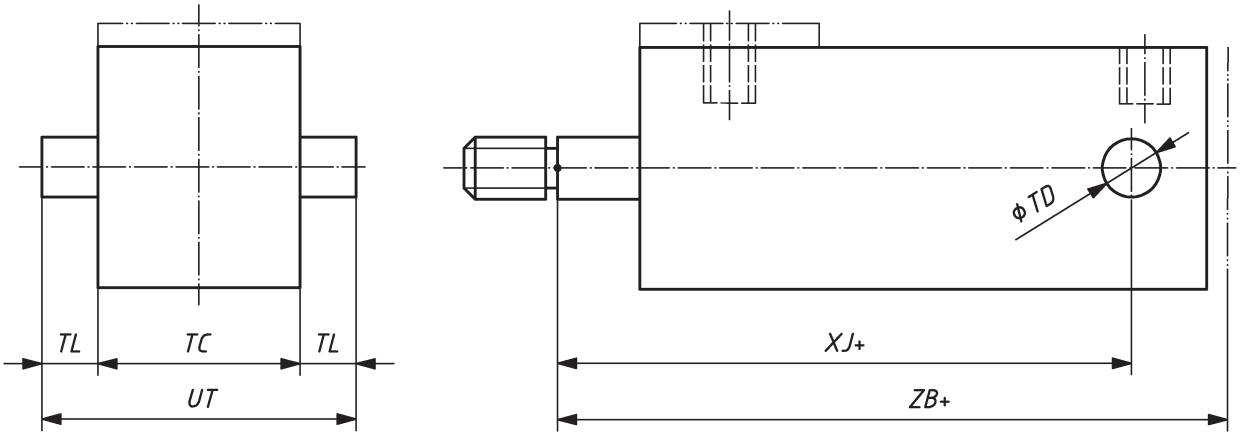


Figure 9 — MT 2 — Cap, integral trunnion (male)

Table 9 — Dimensions of cap, integral trunnion (male)

Dimensions in millimetres

Bore	*TC* h14	*UT* ref.	*TD* f8	*TL* js13	*XJ*[a]	*ZB* max.
25	38	58	12	10	101	121
32	44	68	16	12	115	137
40	63	95	20	16	134	166
50	76	116	25	20	140	176
63	89	139	32	25	149	185
80	114	178	40	32	168	212
100	127	207	50	40	187	225
125	165	265	63	50	209	260
160	203	329	80	63	230	279
200	241	401	100	80	276	336

[a] The tolerance on dimension *XJ* is dependent on stroke; see Table 15.

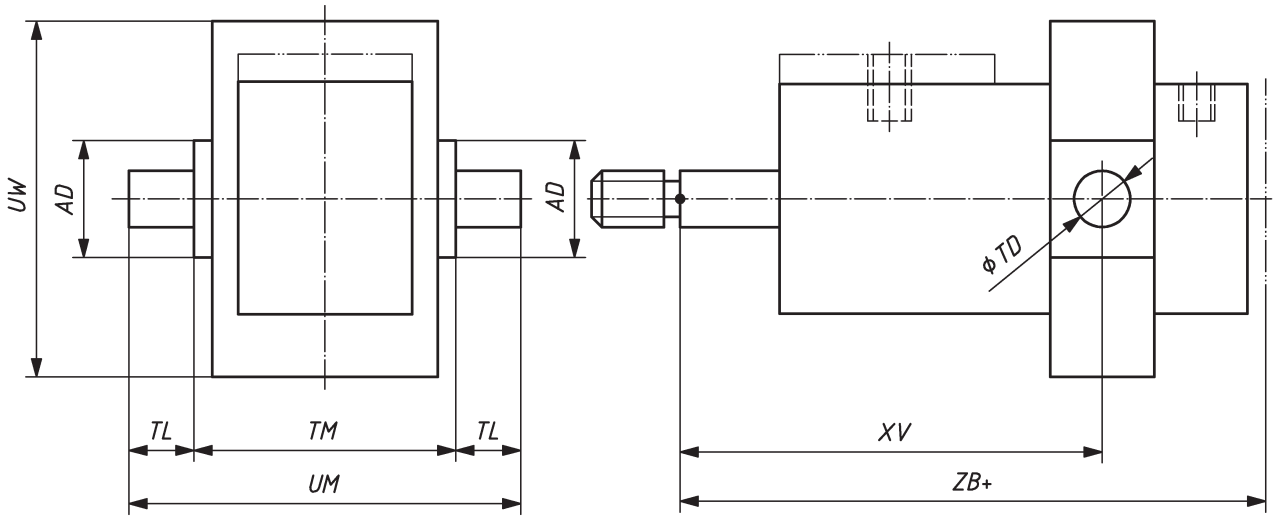


Figure 10 — MT 4 —Intermediate trunnion (male) with selectable position

Table 10 — Dimensions of intermediate trunnion (male) with selectable position

Dimensions in millimetres

Bore	*AD*	*UW*	*TM*	*UM*	*TD*	*TL*	*XV*[a]		*ZB*	Stroke[b]
	min.	max.	h14	ref.	f8	js13	min.	max.	max.	min.
25	20	63	48	68	12	10	82	72 + stroke	121	10
32	25	75	55	79	16	12	96	82 + stroke	137	14
40	30	92	76	108	20	16	107	88 + stroke	166	19
50	40	112	89	129	25	20	117	90 + stroke	176	27
63	40	126	100	150	32	25	132	91 + stroke	185	41
80	50	160	127	191	40	32	147	99 + stroke	212	48
100	60	180	140	220	50	40	158	107 + stroke	225	51
125	73	215	178	278	63	50	180	109 + stroke	260	71
160	90	260	215	341	80	63	198	104 + stroke	279	94
200	110	355	279	439	100	80	226	130 + stroke	336	96

[a] The tolerance on dimension *XV* is dependent on stroke; see Table 15.

[b] For the maximum and minimum values of *XV* to be valid, the cylinder shall have a minimum stroke.

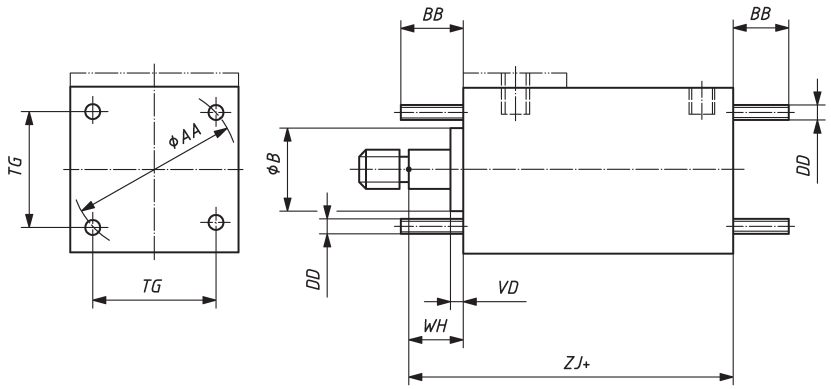


Figure 11 — MX 1 — Both ends studs or tie rods extended

Table 11 — Dimensions of both ends studs or tie rods extended

Dimensions in millimetres

Bore	**Rod** *MM*	***DD*** 6g	***BB*** +3	***AA*** ref.	***WH*** ±2	***ZJ***[a]	***B*** f9	***VD*** min.	***TG*** js13
25	12	M5 × 0,8	19	40	15	114	24	5	28,3
	18						30		
32	14	M6 × 1	24	47	25	128	26	5	33,2
	22						34		
40	18	M8 × 1	35	59	25	153	30	5	41,7
	22						34		
	28						42		
50	22	M12 × 1,25	46	74	25	159	34	5	52,3
	28						42		
	36						50		
63	28	M12 × 1,25	46	91	32	168	42	5	64,3
	36						50		
	45						60		
80	36	M16 × 1,5	59	117	31	190	50	5	82,7
	45						60		
	56						72		
100	45	M16 × 1,5	59	137	35	203	60	5	96,9
	56						72		
	70						88		
125	56	M22 × 1,5	81	178	35	232	72	5	125,9
	70						88		
	90						108		
160	70	M27 × 2	92	219	32	245	88	5	154,9
	90						108		
	110						133		

[a] The tolerance on dimension *ZJ* is dependent on stroke; see Table 15.

Table 11 *(continued)*

Bore	Rod *MM*	*DD* 6g	*BB* +3	*AA* ref.	*WH* ±2	*ZJ*[a]	*B* f9	*VD* min.	*TG* js13
200	90	M30 × 2	115	269	32	299	108	5	190,2
	110						133		
	140						163		

[a] The tolerance on dimension *ZJ* is dependent on stroke; see Table 15.

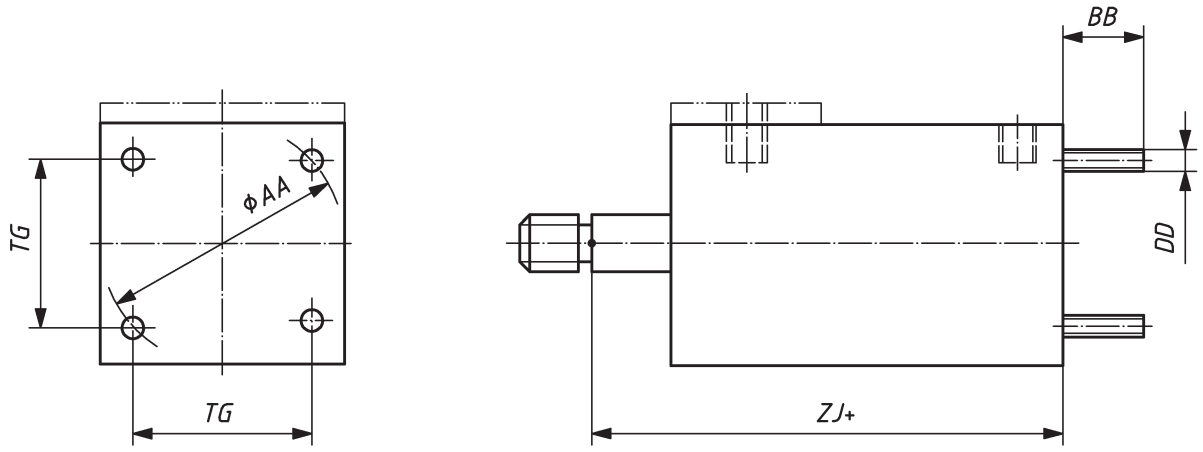


Figure 12 — MX 2 — Cap studs or tie rods extended

Table 12 — Cap studs or tie rods extended

Dimensions in millimetres

Bore	*DD* g6	*BB* +3	*AA* ref.	*ZJ*[a]	*TG* js13
25	M5 × 0,8	19	40	114	28,3
32	M6 × 1	24	47	128	33,2
40	M8 × 1	35	59	153	41,7
50	M12 × 1,25	46	74	159	52,3
63	M12 × 1,25	46	91	168	64,3
80	M16 × 1,5	59	117	190	82,7
100	M16 × 1,5	59	137	203	96,9
125	M22 × 1,5	81	178	232	125,9
160	M27 × 2	92	219	245	154,9
200	M30 × 2	115	269	299	190,2

[a] The tolerance on dimension *ZJ* is dependent on stroke; see Table 15.

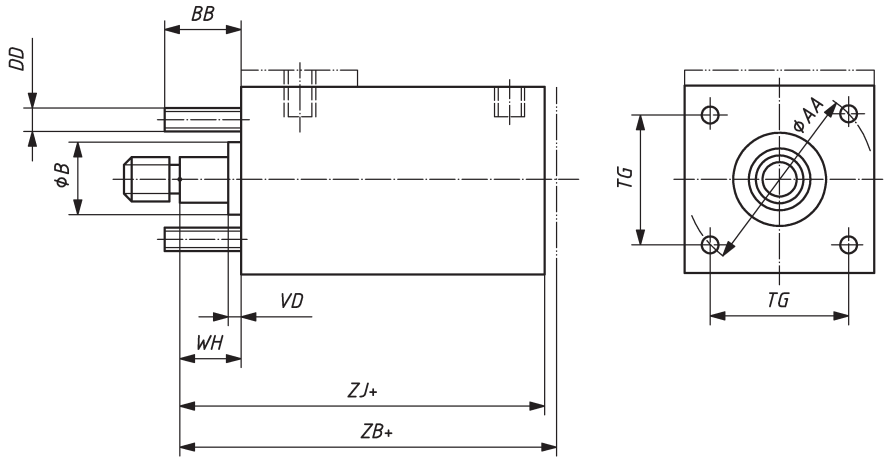


Figure 13 — MX 3 – Head studs or tie rods extended

Table 13 — Dimensions of head studs or tie rods extended

Dimensions in millimetres

Bore	Rod *MM*	*AA* ref.	*DD* g6	*BB* +3 0	*WH*[a]	*ZJ*[a]	*B* f9	*VD* min.	*TG* js13	*ZB* max.
25	12	40	M5 × 0,8	19	15	114	24	5	28,3	121
	18						30			
32	14	47	M6 × 1	24	25	128	26	5	33,2	137
	22						34			
40	18	59	M8 × 1	35	25	153	30	5	41,7	166
	22						34			
	28						42			
50	22	74	M12 × 1,25	46	25	159	34	5	52,3	176
	28						42			
	36						50			
63	28	91	M12 × 1,25	46	32	168	42	5	64,3	185
	36						59			
	45						60			
80	36	117	M16 × 1,5	59	31	190	50	5	82,7	212
	45						60			
	56						72			
100	45	137	M16 × 1,5	59	35	203	60	5	96,9	225
	56						72			
	70						88			
125	56	178	M22 × 1,5	81	35	232	72	5	125,9	260
	70						88			
	90						108			

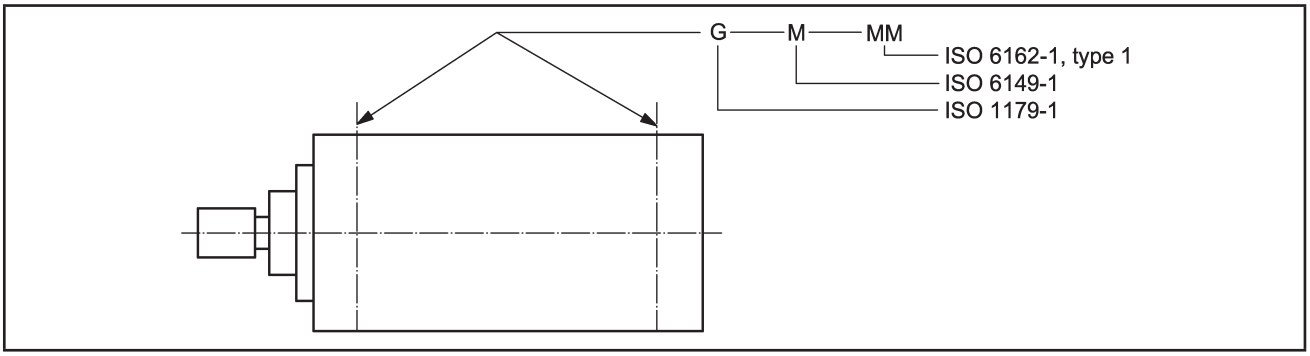
[a] The tolerances on dimensions *WH* and *ZJ* are dependent on stroke; see Table 15.

Table 13 *(continued)*

Bore	Rod *MM*	*AA* ref.	*DD* g6	*BB* +3 0	*WH*[a]	*ZJ*[a]	*B* f9	*VD* min.	*TG* js13	*ZB* max.
160	70	219	M27 × 2	92	32	245	88	5	154,9	279
	90						108			
	110						133			
200	90	269	M30 × 2	115	32	299	108	5	190,2	336
	110						133			
	140						163			

[a] The tolerances on dimensions *WH* and *ZJ* are dependent on stroke; see Table 15.

Table 14 — Port and flange sizes and dimensions



Bore	ISO 1179-1 port		ISO 6149-1 port		ISO 6162-1 rectangular flange, type 1				
	G		M		MM				
	EE 6g	*EC* min.	*EE* 6g	*EC* min.	Nominal flange size DN	*FF* max	*EA* ±0,25	*EB* ±0,25	*ED*
25	G 1/4	7,5	M14 × 1,5	7,5	—	—	—	—	—
32									
40	G 3/8	9	M18 × 1,5	11	—	—	—	—	—

Table 14 *(continued)*

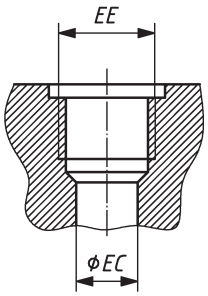
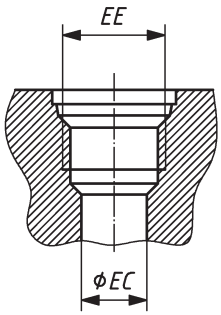
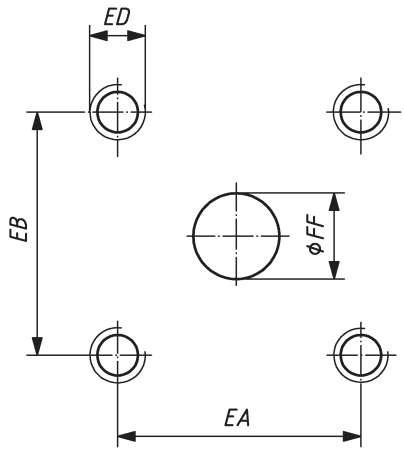
Bore	ISO 1179-1 port 		ISO 6149-1 port 		ISO 6162-1 rectangular flange, type 1 				
	G		M		MM				
	EE 6g	*EC* min.	*EE* 6g	*EC* min.	Nominal flange size DN	*FF* max	*EA* ±0,25	*EB* ±0,25	*ED*
50	G 1/2	14	M22 × 1,5	14	—	—	—	—	—
63									
80	G 3/4	18	M27 × 2	18	—	—	—	—	—
100									
125	G 1	23	M33 × 2	23	25	25	26,2	52,4	M10 × 1,5
160									
200	G 1 1/4	30	M42 × 2	30	32	32	30,2	58,7	M10 × 1,5

Table 15 — Tolerances for mounting dimensions that are dependent on stroke

Dimensions in millimetres

Code for mounting dimension	*SS*[a]	*WH*	*XC*[a] *or XO*[a]	*XG*	*XJ*[a]	*XS*	*XV*	*Y*	*ZB*[a]	*ZJ*[a]
Nominal stroke	**Tolerances**									
≤1 250	±1,5	±2	±1,5	±2	±1,5	±2	±2	±2	max.	±1,5
>1 250 ≤ 3 150	±3	±4	±3	±4	±3	±4	±4	±4		±3
>3 150 ≤ 8 000	±5	±8	±5	±8	±5	±8	±8	±8		±5

[a] Length including stroke. Stroke tolerances from Clause 6 shall not be added to the tolerances in this table.

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[6] ISO 6020-3, *Hydraulic fluid power — Mounting dimensions for single rod cylinders, 16 MPa (160 bar) series — Part 3: Compact series with bores from 250 mm to 500 mm*

[7] ISO 8133, *Hydraulic fluid power — Mounting dimensions for accessories for single rod cylinders, 16 MPa (160 bar) compact series*

[8] ISO 1179-1, *Connections for general use and fluid power — Ports and stud ends with ISO 228-1 threads with elastomeric or metal-to-metal sealing — Part 1: Threaded ports*

[9] ISO 6149-1, *Connections for hydraulic fluid power and general use — Ports and stud ends with ISO 261 metric threads and O-ring sealing — Part 1: Ports with truncated housing for O-ring seal*

[10] ISO 6162-1, *Hydraulic fluid power — Flange connections with split or one-piece flange clamps and metric or inch screws — Part 1: Flange connectors, ports and mounting surfaces for use at pressures of 3,5 MPa (35 bar) to 35 MPa (350 bar), DN 13 to DN 127*

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