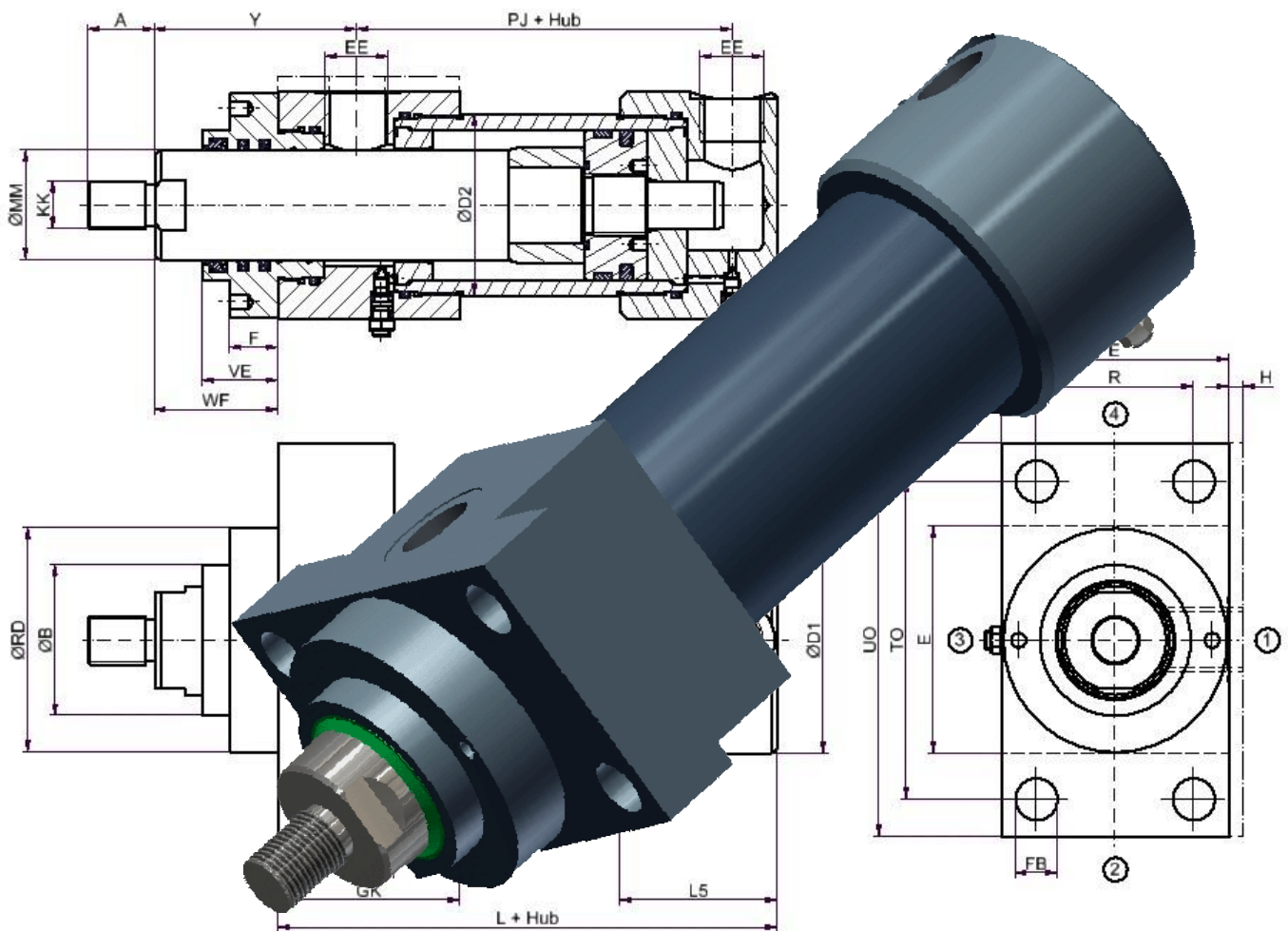
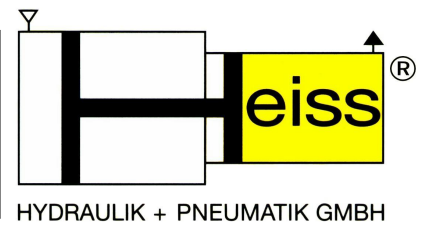


Standard Norm Cylinder DIN 24554



- Maximum operating pressure up to 160 bar
- Choice of 10 different piston sizes between 25 and 200mm with 2 different rod diameters and 4 different attachments each
- Rugged, threaded design with good guiding properties
- Seal arrangement for easy service
- Seal groove and diameter according to ISO 5597/1 and DIN ISO 7425/1
- Seals by default specified for maximum temperatures for continuous duty up to 80°C and speeds up to 0,5 m/s
- Available for use with water

Standard Norm Cylinder DIN 24554



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General Information:

The cylinders are manufactured with threaded design with ground and hard-chrome plated piston rod for the below listed applications.

Special purpose designs of almost any configuration can be considered without problems. In this case dimensions may not adhere to the norm any longer. Smaller and larger design sizes are possible upon request.

The cylinder can be fitted with vent valves upon request as well. Please indicated the desired position when ordering.

CAD data is available from our electronic catalogue available on CD - please contact us for your copy – or online from the download area at www.heiss.de.

Technical Specifications:

Operating pressure:

Maximum 160 bar, for higher pressures or hydraulic shocks please contact us.

Operating fluids:

Hydraulic oil on the basis of mineral oils for example H, HL, HLP-oils per DIN 51524/51525. Other operating fluids like fire resisting fluids or water may be used upon request.

Operating temperature:

By default the cylinder is fitted with seals for a temperature range from -20°C to +80°C. High temperature resistant seals can be fitted without changes in design.

Piston travel speed:

Maximum of 0,5 m/s. Please contact us for higher piston travel speeds.

Cylinder stroke:

Maximum permissible stroke is dependent on permissible buckling stress. For dimensioning help please use the load/buckling diagram with the simplified calculation formulas.

Position of connections:

By default the ports are on face 1. The adjustment screw of the damper is located on face 3 except with configuration MS2, here it is on face 2.

In case the ports or damper adjustment need to be located elsewhere, please, indicate this with the order.

Tolerances:

The stroke tolerance is between 0 to + 2 mm.
Stroke dependent dimensions according to DIN ISO 2768 – g T1 (previously DIN 7168 – g)
Other tolerances according to DIN ISO 2768 – m T1 (previously DIN 7168 – m)

Attachment elements:

Swivel heads according to DIN 24555 and pivot brackets according to DIN 24556 are listed in our main catalogue under Accessories.

Position sensing:

Should end-of-stroke position sensing with inductive proximity sensors be required, please, request this with your order. In contrary to position measuring systems and polling with magnetic field sensors no extra lengths is required and dimensions keep adhering to DIN 24554.

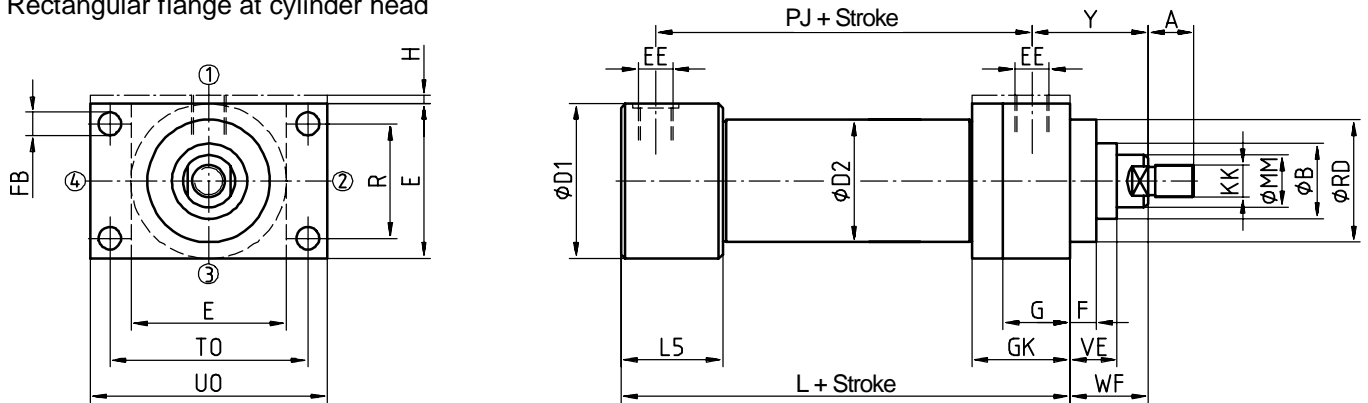
Technical data of end-of-stroke sensing and position measuring systems can be found on pages of our standard catalogue.

Standard Norm Cylinder DIN 24554



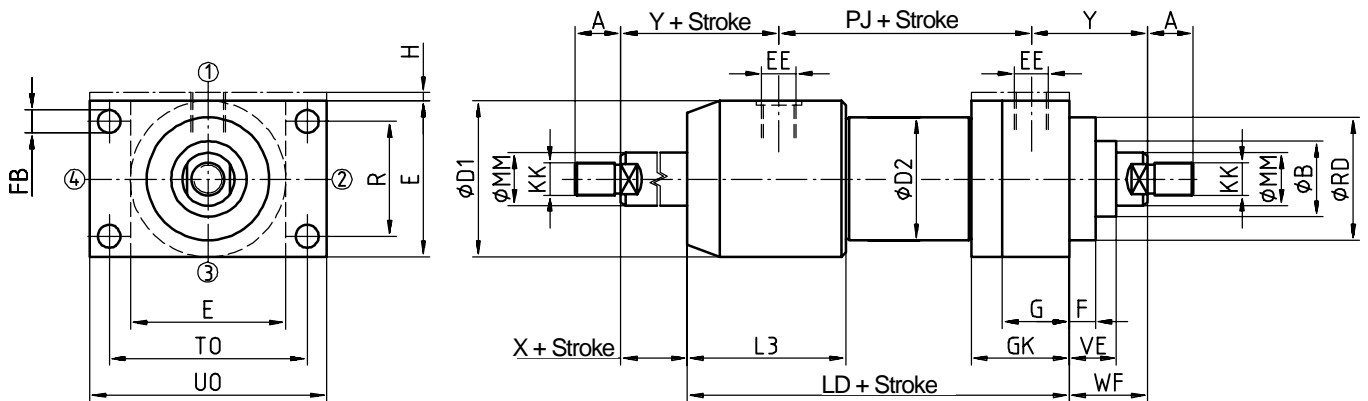
Attachment ME 5

Rectangular flange at cylinder head



Attachment ME 5 - 120

Rectangular flange at cylinder head with continuous piston rod (not per DIN 24554)



Piston-ø	25		32		40		50		63		80		100		125		160		200	
MM _{f7}	12	18	14	22	18	28	22	36	28	45	36	56	45	70	56	90	70	110	90	140
KK	M10x1,25		M12x1,25		M14x1,5		M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3	
A	14		16		18		22		28		36		45		56		63		85	
RD _{f7}	38	38	42	42	62	62	74	74	75	88	82	105	92	125	105	150	125	170	150	210
B	24	30	26	34	30	42	34	50	42	60	50	72	60	88	72	108	88	133	108	163
WF	25		35		35		41		48		51		57		57		57		57	
VE	16		22		22		25		29		29		32		32		32		32	
F	10		10		10		16		16		20		22		22		25		25	
E	40		45		63		75		90		115		138 ¹⁾		175 ¹⁾		212 ¹⁾		275 ¹⁾	
R	27		33		41		52		65		83		97		126		155		190	
TO	51		58		87		105		117		149		162		208		253		300	
UO	65		70		110		130		145		180		200		250		300		360	
FB	5,5		6,6		11		14		14		18		18		22		26		33	
H	5		5		0		0		0		0		0		0		0		0	
G	25		25		38		38		38		45		45		58		58		76	
EE	G 1/4"		G 1/4"		G 3/8"		G 1/2"		G 1/2"		G 3/4"		G 3/4"		G 1"		G 1"		G 1 1/4"	
Y	50		60		62		67		71		77		82		86		86		98	
X	9		25		12		16		20		16		32		23		27		25	
PJ	53		56		73		74		80		93		101		117		130		165	
L	89		93		115		115		118		137		144		167		188		241	
LD	119		116		150		151		154		180		176		209		218		279	
D1	50		54		64		75		95		115		138		175		212		275	
D2	30		38		48		60		75		92		115		145		190		230	
L3	69		66		82		88		93		120		99		127		140		158	
L5	39		38		47		52		50		67		67		85		110		120	
GK	50		50		59		60		58		78		75		95		107		126	

¹⁾ Flange dimension is reinforced in comparison to to norm

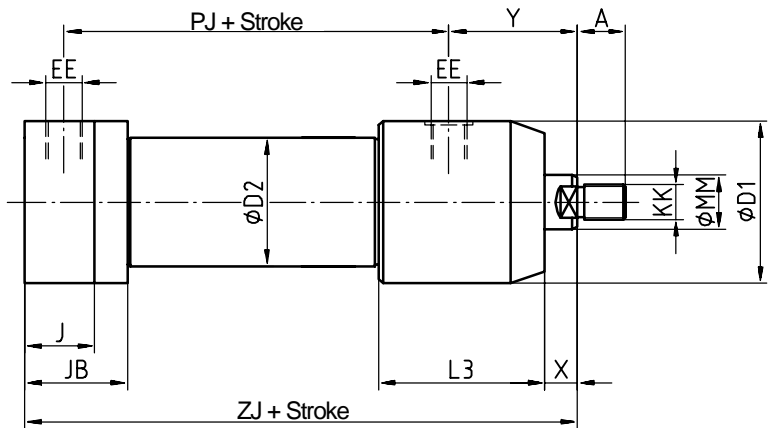
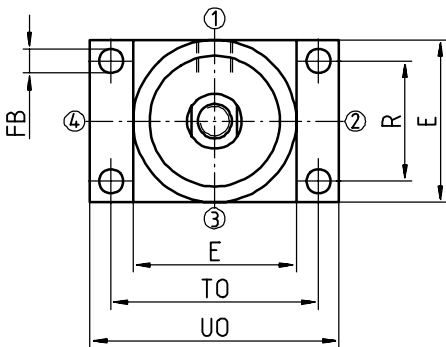
Design subject to change* Revision A * 19.01.2000

Standard Norm Cylinder DIN 24554



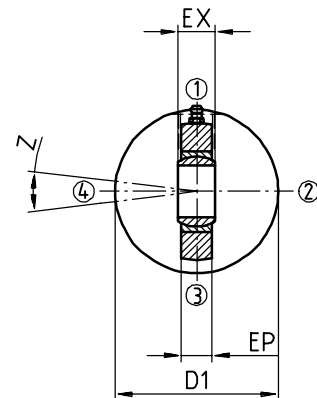
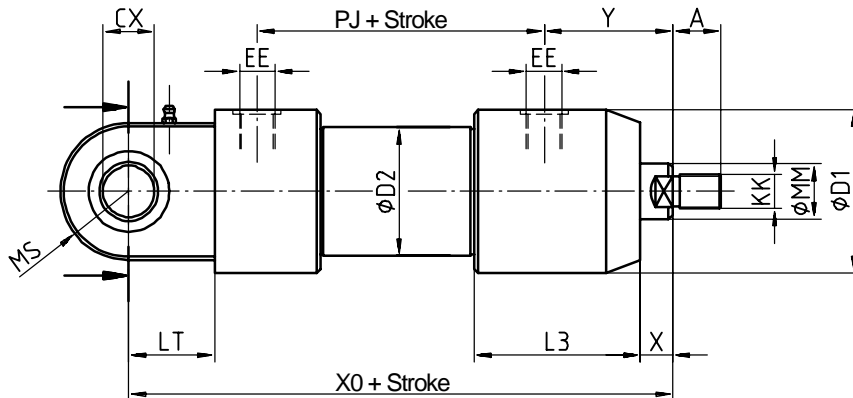
Attachment ME 6

Rectangular flange at cylinder bottom



Attachment MP 5

Ball and pivot joint at cylinder bottom



Piston-ø	25		32		40		50		63		80		100		125		160		200	
MM _{f7}	12	18	14	22	18	28	22	36	28	45	36	56	45	70	56	90	70	110	90	140
KK	M10x1,25		M12x1,25		M14x1,5		M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3	
A	14		16		18		22		28		36		45		56		63		85	
E	40		45		63		75		90		115		138 ¹⁾		175 ¹⁾		212 ¹⁾		275 ¹⁾	
R	27		33		41		52		65		83		97		126		155		190	
TO	51		58		87		105		117		149		162		208		253		300	
UO	65		70		110		130		145		180		200		250		300		360	
FB	5,5		6,6		11		14		14		18		18		22		26		33	
J	25		25		38		38		38		45		45		58		58		76	
JB	36		37		50		52		52		72		70		95		107		121	
CX ^{H8}	12		16		20		25		30		40		50		60		80		100	
LT	16		20		25		31		38		48		58		72		92		116	
MS	20		22.5		29		33		40		50		62		80		100		120	
EX ^{-0,2}	10		14		16		20		22		28		35		44		55		70	
EP	7		10		12		16		18		22		30		38		47		57	
Z _{min}	6°		6°		6°		6°		6°		6°		6°		6°		6°		6°	
EE	G 1/4"		G 1/4"		G 3/8"		G 1/2"		G 1/2"		G 3/4"		G 3/4"		G 1"		G 1"		G 1 1/4"	
X	9		25		12		16		20		16		32		23		27		25	
Y	50		60		62		67		71		77		82		86		86		98	
PJ	53		56		73		74		80		93		101		117		130		165	
ZJ	114		128		153		159		168		190		203		232		245		299	
XO	130		148		178		190		206		238		261		304		337		415	
D1	50		54		64		75		95		115		138		175		212		275	
D2	30		38		48		60		75		92		115		145		190		230	
L3	69		66		82		88		93		120		99		127		140		158	

¹⁾ Flange dimension is reinforced in comparison to to norm

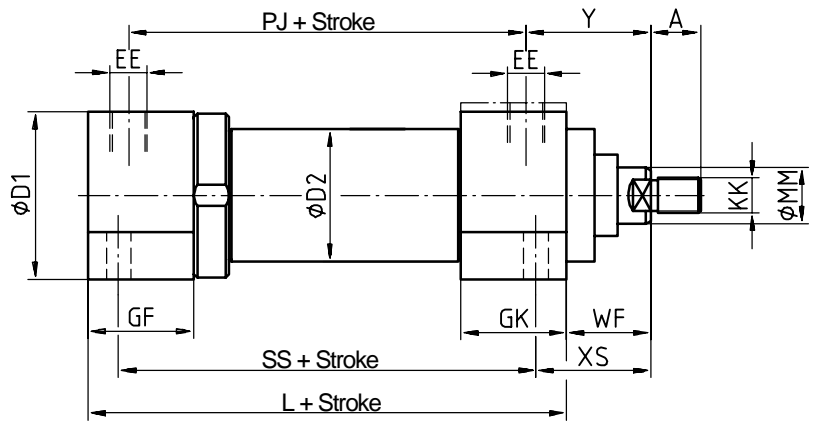
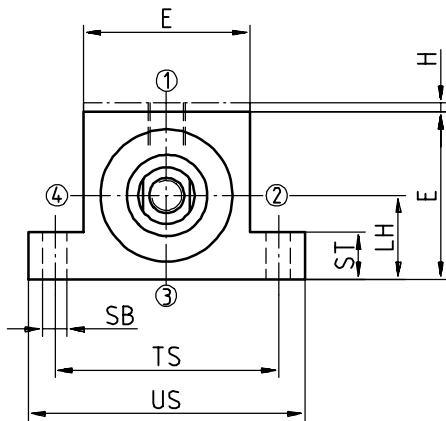
Design subject to change* Revision A * 19.01.2000

Standard Norm Cylinder DIN 24554



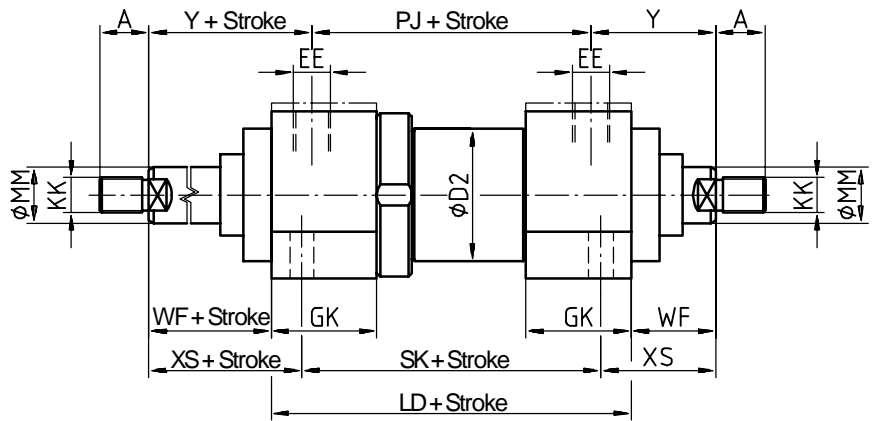
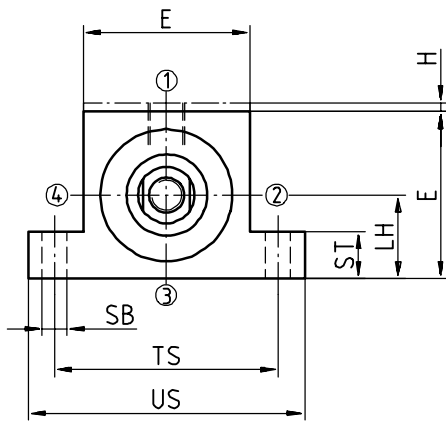
Attachment MS 2

Foot attachment on side



Attachment MS 2 – 120

Foot attachment with continuous piston rod (not per DIN 24554)



Piston-ø	25		32		40		50		63		80		100		125		160		200	
MM _{f7}	12	18	14	22	18	28	22	36	28	45	36	56	45	70	56	90	70	110	90	140
KK	M10x1,25		M12x1,25		M14x1,5		M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3	
A	14		16		18		22		28		36		45		56		63		85	
WF	25		35		35		41		48		51		57		57		57		57	
XS	33		45		45		54		65		68		79		79		86		92	
E	40		45		63		75		90		115		130		165		205		245	
TS	54		63		83		102		124		149		172		210		260		311	
US	72		84		103		127		161		186		216		254		318		381	
H	5		5		0		0		0		0		0		0		0		0	
ST	8,5		12,5		12,5		19		26		26		32		32		38		44	
LH _{h10}	19		22		31		37		44		57		63		82		101		122	
SB	6,6		9		11		14		18		18		26		26		33		39	
EE	G 1/4"		G 1/4"		G 3/8"		G 1/2"		G 1/2"		G 3/4"		G 3/4"		G 1"		G 1"		G 1 1/4"	
Y	50		60		62		67		71		77		82		86		86		98	
PJ	53		56		73		74		80		93		101		117		130		165	
SS	73		73		98		92		86		105		102		131		130		172	
SK	87		86		107		100		92		111		107		131		130		177	
L	89		93		118		115		118		137		144		175		188		241	
LD	103		106		127		126		126		145		151		175		188		247	
D2	30		38		48		60		75		92		115		145		190		230	
GK	50		50		59		60		58		78		75		95		107		126	
GF	38		38		50		52		50		67		67		93		110		120	

Design subject to change

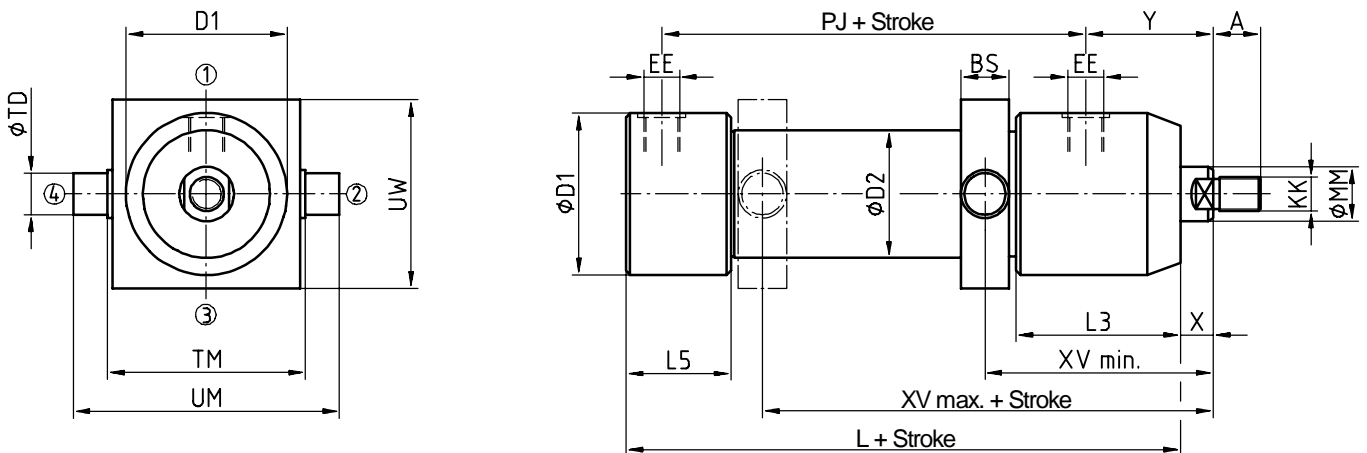
* Revision B * 19.12.2000

Standard Norm Cylinder DIN 24554



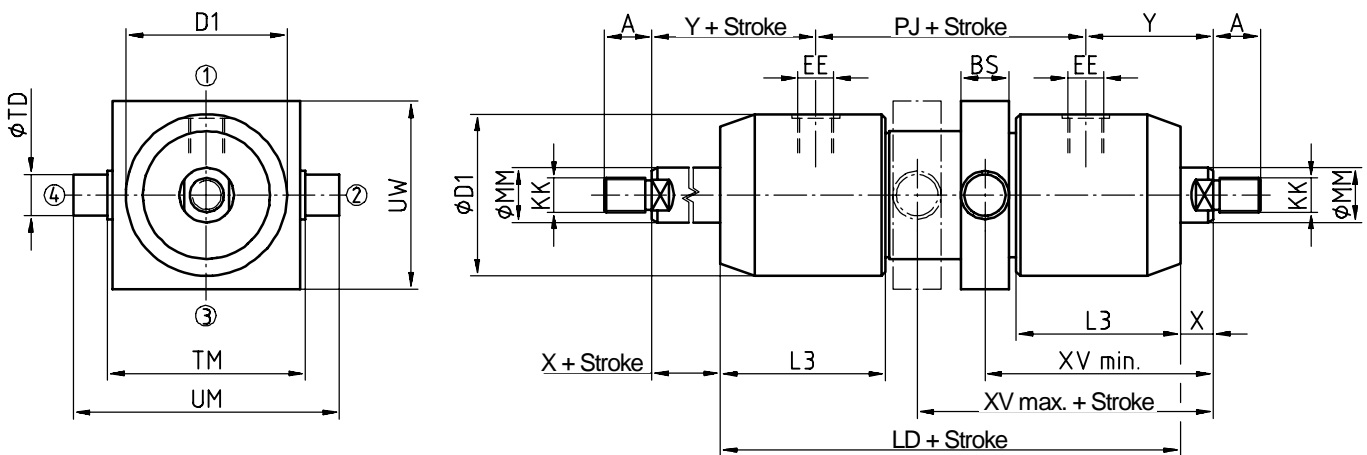
Attachment MT 4

Pivot pins at cylinder tube



Attachment MT 4 – 120

Pivot pins at cylinder tube with continuous piston rod (not per DIN 24554)



Indicate required dimension XV with order.

Piston-ø	25		32		40		50		63		80		100		125		160		200	
MM _{f7}	12	18	14	22	18	28	22	36	28	45	36	56	45	70	56	90	70	110	90	140
KK	M10x1,25		M12x1,25		M14x1,5		M16x1,5		M20x1,5		M27x2		M33x2		M42x2		M48x2		M64x3	
A	14		16		18		22		28		36		45		56		63		85	
TD _{f8}	12		16		20		25		32		40		50		63		80		100	
TM _{h14}	48		55		76		89		100		127		140		178		215		279	
UW	50		60		70		80		100		120		140		180		230		280	
UM	68		79		108		129		150		191		220		278		341		439	
BS	14		18		24		30		36		44		56		68		88		108	
XV _{min}	85		100		106		119		131		158		159		184		211		237	
XV _{max}	70		82		91		92		98		96		105		103		94		124	
EE	G 1/4"		G 1/4"		G 3/8"		G 1/2"		G 1/2"		G 3/4"		G 3/4"		G 1"		G 1"		G 1 1/4"	
X	9		25		12		16		20		16		32		23		27		25	
Y	50		60		62		67		71		77		82		86		86		98	
PJ	53		56		73		74		80		93		101		117		130		165	
L	107		104		138		143		146		169		168		199		221		273	
LD	135		126		173		176		182		215		201		243		248		311	
D1	50		54		64		75		95		115		138		175		212		275	
D2	30		38		48		60		75		92		115		145		190		230	
L3	69		66		82		88		93		120		99		127		140		158	
L5	39		38		47		52		50		67		67		85		110		120	

Design subject to change

* Revision A * 19.01.2000

Standard Norm Cylinder DIN 24554



Functional Modes

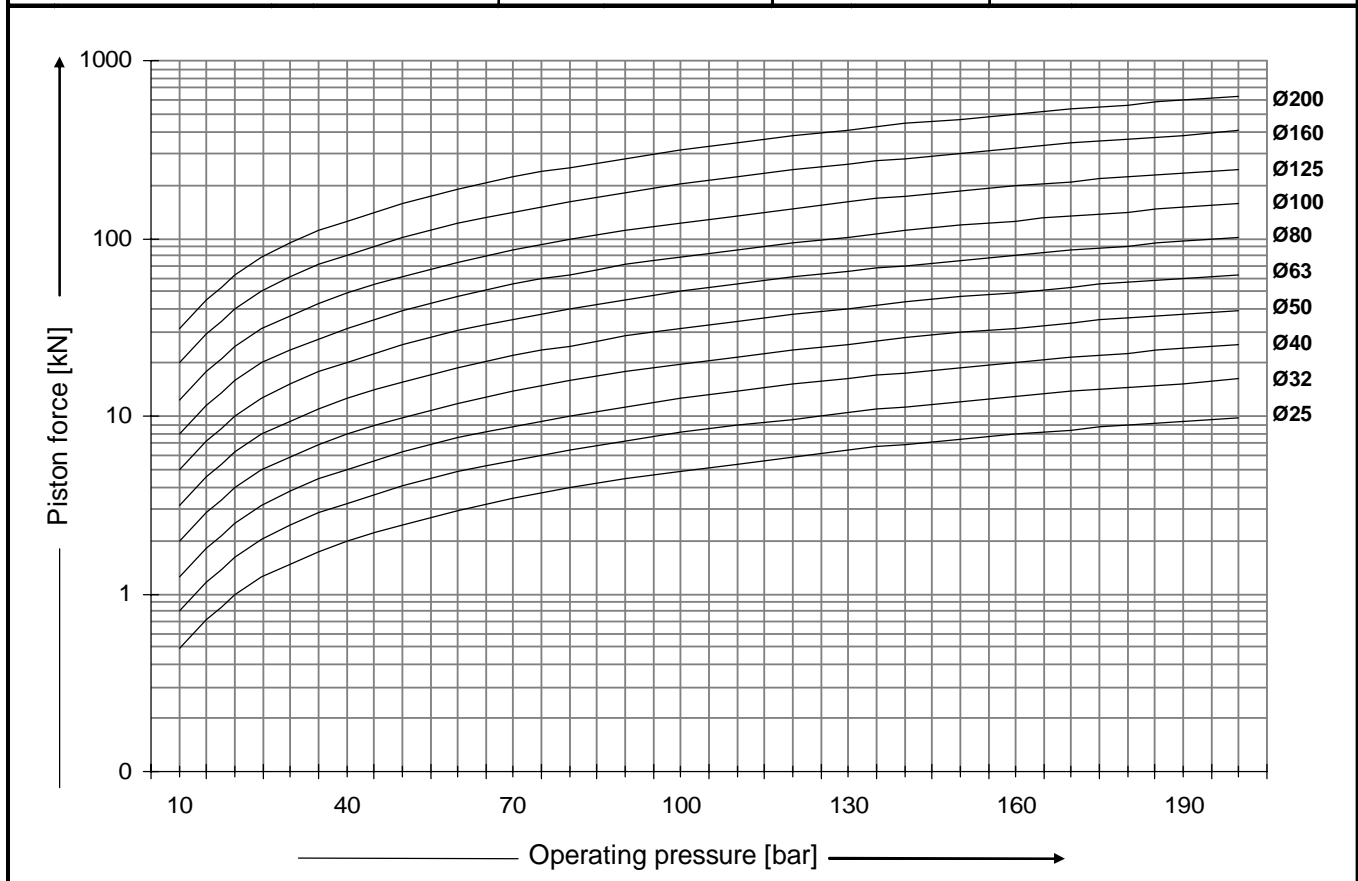
Symbol per DIN 24300	Functional mode	Description	Symbol per DIN 24300	Functional mode	Description
	001	Single acting pushing		004	Double acting, end-of-stroke damper on both sides
	002	Single acting pulling		005	Double acting, end-of-stroke damper on rod side
	003	Double acting		006	Double acting, end-of-stroke damper on bottom side

Cylinder with continuous piston rod (without description in DIN24552)

	120.003	Double acting, nondifferential cylinder
	120.004	Double acting, nondifferential cylinder, end-of-stroke damper on both sides
	120.005	Double acting, nondifferential cylinder, end-of-stroke damper on one

Piston force diagram

Formula for calculation:			
<ul style="list-style-type: none"> Force on piston side (pushing): $F = \frac{p \cdot D^2 \cdot \pi}{40000}$ 	<ul style="list-style-type: none"> required piston-\varnothing : 	$D_{\text{erf}} = \sqrt{\frac{F \cdot 40000}{p \cdot \pi}}$	F ... Piston force [kN] p ... Operating press. [bar] D ... Piston- \varnothing [mm] d ... Rod- \varnothing [mm].
<ul style="list-style-type: none"> Force on rod side (pulling): $F = \frac{p \cdot (D^2 - d^2) \cdot \pi}{40000}$ 	<ul style="list-style-type: none"> required operating pressure: 		



Design subject to change

* Revision A * 19.01.2000

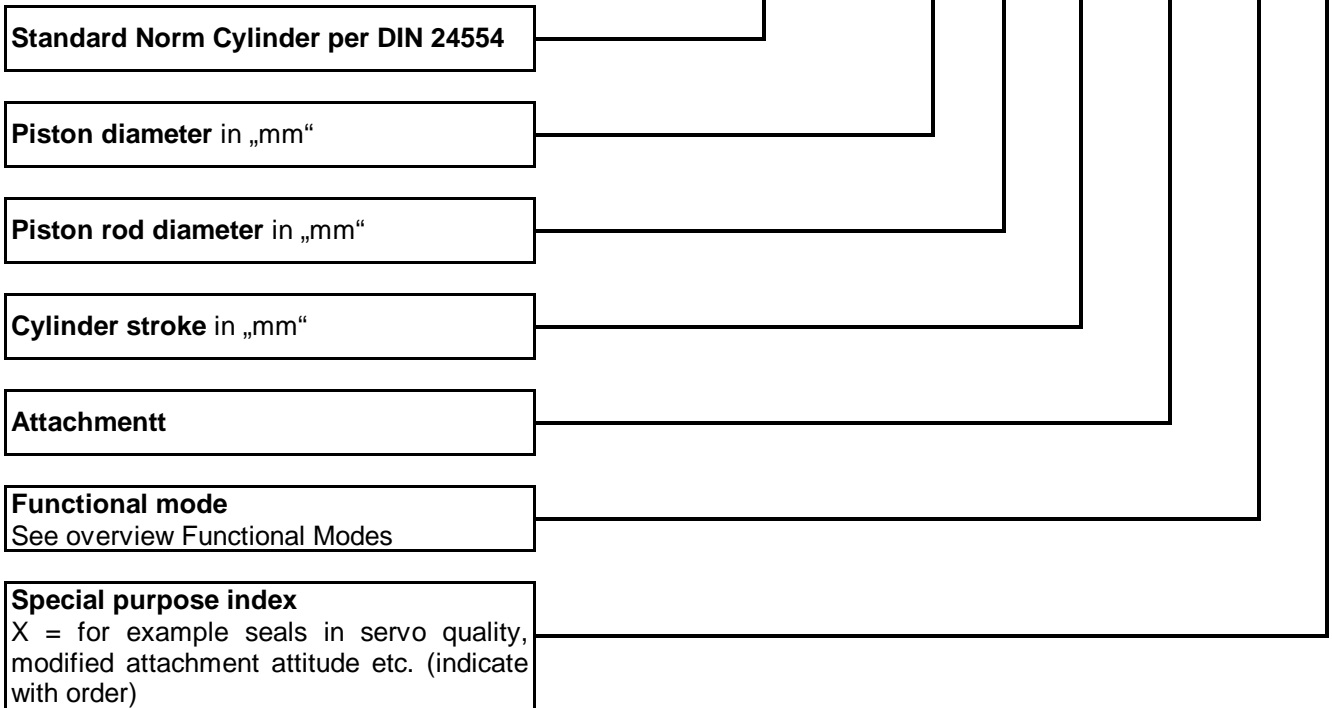
Standard Norm Cylinder DIN 24554



Type Designation

Description:

SNZ DIN 24554 - 50 / 32 / 200 - ME5 . 003 . X



For ordering cylinder wear part kits please indicate the type designation and the commission number imprinted on the cylinder

Please consider our additional product range:

Hydraulic rotational drive cylinder	HDZ 120	Hydraulic cube cylinder	HWZ 400
Swing clamp cylinder	SSZ 250	Hydraulic block cylinder	HBZ 500
Booster cylinder (up to 5000 bar)	PHU / HHU	Hydraulic short stroke cylinder	HKZ 500
Multi port swivel	PDD / HDD	Hydraulic compact cylinder	HKZ 160

Standard cylinder series **SZ 100, SZ 160, SZ 250,**

wahlweise mit Magnetfeldsensoren, induktiven Näherungsschaltern, integriertem Wegmeß-system und Ventilplattenanschluß mit Auswahl aus 23 verschiedenen Grundbefestigungsarten

as well as cylinder strips and hydromechanical clamping units, special purpose cylinder with piston diameters up to 500 mm and strokes up to 8000 mm Hub.