Ordering Code Standard Cylinders / Standard Cylinders DIN/ISO

HYDROPNEU partner for hydraulics
cylinders - drives - special solutions

in case of deviation from standard only | for cylinders with proximity switch only

Classification / order number	TYP	KST	KSTH	KSTV	BEA	BAA	DAE	/ DKO	/ MM	/ HUB	KDI	KSDI	EE	/ EEV	EEH	- DAEV	DAEH	- ELV	ELH	/ S	SZA	/ SVO	SHI
Example	51	0	0	8	02	2	1	/ 050	/ 022	/ 0350	5	0	0	/ 1	1	- 2	0	- 0	0	/ N	0	/ 3	3

Abbr.	Characteristics	Types of cylinders								
TYP	**Type of cylinder**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**

KST	**Piston rod**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	single	X	X	X	X	X	X	X	X	X
1	on both sides (double rod cylinder)	X					X		X	
2	on both sides, small rear rod						X		X	
3	on both sides, large rear rod						X		X	
4	on both sides, medium rear rod						X		X	

KSTH	**Piston rod end, rear**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	external thread	X	X	X	X	X	X		X	
1	internal thread	X					X		X	
2	cylindrical	X								
4	external thread ISO 4395						X		X	
5	plain rod eye	X								
8	swivel head (Type 51, 55: DIN 24555)	X					X		X	

KSTV	**Piston rod end, front**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	external thread	X	X	X	X	X	X	X	X	X
1	internal thread	X	X	X	X	X	X	X	X	X
2	cylindrical	X	X	X	X	X	X	X	X	X
3	coupling	X	X	X	X	X	X	X	X	X
4	external thread ISO 4395	X	X	X	X	X	X	X	X	X
5	plain rod eye	X	X	X	X	X	X	X	X	X
8	swivel head (Type 51, 55: DIN 24555)	X	X	X	X	X	X	X	X	X
9	clevis	X	X	X	X	X	X	X	X	X

BEA	**Mounting type**	ISO-B	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
00	basic form		X		X	X	X	X	X	X	
01	threaded flange head end		X								
	threaded holes head end	MX 5						X	X	X	
02	foot mounting	MS 2	X	X	X	X	X	X	X	X	X
03	flange head end	MF 3	X	X	X	X	X				
04	flange cap end	MF 4	X	X	X	X	X				
05	rod eye	MP 3	X	X	X	X	X	X	X	X	
06	trunnion	MT 4	X	X	X	X	X	X	X	X	
08	rod end bearing	MP 5	X		X	X	X	X	X	X	
11	threaded holes head end	MX 5			X	X	X				X
	tie rods elongated head end	MX 3						X	X	X	
12	threaded holes cap end										X
	tie rods elongated cap end	MX 2						X	X	X	
13	rectangular flange head end [1), 3)]	MF1/ME5	X		X	X	X	X	X	X	X
14	rectangular flange cap end [2), 3)]	MF2/ME6	X		X	X	X	X	X	X	X
15	clevis mounting	MP 1						X	X	X	
16	trunnion on the head	MT 1						X	X	X	
19	tie rods elongated both ends	MX 1						X	X	X	
22	foot mounting with fit-in key							X	X	X	X
23	rectangular flange head end (wide)							X	X	X	
26	trunnion on the bottom	MT 2						X	X	X	
33	flange on cylinder		X		X	X	X				
43	longitudinal bores, sinks on both sides										X

BAA	**Type of construction**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
2	double-acting	X	X	X	X	X	X	X	X	X
3+4	single-acting (3=pushing; 4=pulling)	X	X	X	X	X	X	X	X	X
5+6	single-acting with spring (5=pushing; 6=pulling)									X

DAE	**Cushioning**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without cushioning	X	X	X	X	X	X	X	X	X
1	cushioning in the front	X	X	X	X	X	X	X	X	
2	cushioning in the rear	X	X	X	X	X	X	X	X	
3	cushioning on both sides	X	X	X	X	X	X	X	X	

DKO	**Piston diameter**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
	see measuring index									

MM	**Piston rod diameter**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
	see measuring index									

HUB	**Stroke**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
	(consider buckling)									

KDI	**Piston seal**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	NBR lip seals, PU lip seals	Xs	X	X	X	X	X	X	X	
2	lip seal / Viton	X	X							
3	piston ring / casting		Xs							
5*	sleeve ring/o-ring; tefl./NBR	X(S)	X	Xs	Xs	Xs	Xs	Xs	Xs	Xs
6	sleeve ring/o-ring; tefl./Viton	X	X	X	X	X	X	X	X	X
7	compact seal / NBR	X		X	X	X	X	X	X	

KSDI	**Piston rod seal**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	NBR lip seals / PU lip seals	Xs		X	Xs	Xs	Xs	Xs	Xs	
1	PU lip seal u-seal				X	X	X	X	X	Xs
2	lip seal / Viton	X			X	X	X	X	X	X
3	chevron ring NBR		Xs	Xs						
4	chevron ring Viton		X	X						
5	stepseal/o-ring; Tefl./NBR			X	X	X	X	X	X	
6	sleeve ring/o-ring; tefl./Viton			X	X	X	X	X	X	
9	PU lip seal u-seal + scraper Viton	X			X		X	X		

EE	**Hydraulic connections**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	pipe thread (DIN/ISO 228)	Xs	Xs	Xs	Xs	Xs	Xs	Xs	Xs	Xs
1	metrical ISO thread	X		X	X	X	X	X	X	
2	UNF thread	X		X	X	X	X	X	X	
3	flange connection			X	X	X	X	X	X	

EEV	**Hydr. connection, front position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
1	0 degrees (at top)	Xs	Xs	Xs	Xs	Xs	Xs	Xs	Xs	X
2	45 / 60 degrees (clockwise)			X	X	X				
2 / 3	90 degrees (clockwise)			3	3	3	2	2	2	X
4	135 degrees (clockwise)			X	X	X				
3 / 5	180 degrees (clockwise)			5	5	5	3	3	3	
6	225 degrees(clockwise)			X	X	X				
4 / 7	270 degrees (clockwise)			7	7	7	4	4	4	
8	315 degrees (clockwise)			X	X	X				

[1)] MF 1 for 41, 44, 46, 47, 48; ME 5 for 51, 53, 55
[2)] MF 2 for 41, 44, 46, 47, 48; ME 6 for 51, 53, 55
[3)] Mounting type 13, (14) for Type 57: longitudinal bores, sinks on rear (front)
* Type 41: standard for piston diameter = 12, 15, 20
S = standard design
(S) = standard design, not all forms of construction

EEH	**Hydr. connection, rear position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
1	0 degrees (at top) | rear center	rc		Xs	Xs	Xs	Xs	Xs	Xs	X
2	45 / 60 degrees (clockwise)			X	X	X				
2 / 3	90 degrees (clockwise)			3	3	3	2	2	2	X
4	135 degrees (clockwise)			X	X	X				
3 / 5	180 degrees (clockwise)			5	5	5	3	3	3	
6	225 degrees (clockwise)			X	X	X				
4 / 7	270 degrees (clockwise)			7	7	7	4	4	4	
8	315 degrees (clockwise)			X	X	X				

DAEV	**Cushioning, front position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without cushioning	X		X	X	X	X	X	X	
1	0 degrees (at top)			X	X	X	X	X	X	
2	45 / 60 degrees (clockwise)	X		X	X	X				
2 / 3	90 degrees (clockwise)	X		3s	3s	3s	2s	2(S)	2s	
4	135 degrees (clockwise)			X	X	X				
3 / 5	180 degrees (clockwise)	X		5	5	5	3	3s	3	
6	225 degrees (clockwise)			X	X	X				
4 / 7	270 degrees (clockwise)	X		7	7	7	4	4	4	
8	315 degrees (clockwise)			X	X	X				

DAEH	**Cushioning, rear position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without cushioning	X		X	X	X	X	X	X	
1	0 degrees (at top)			X	X	X	X	X	X	
2	45 / 60 degrees (clockwise)	X		X	X	X				
2 / 3	90 degrees (CW; 51/55: FOC02->S)	X		3s	3s	3s	2(S)	2(S)	2(S)	
4	135 degrees (clockwise)			X	X	X				
3 / 5	180 degrees (clockwise)	X		5	5	5	3s	3s	3s	
6	225 degrees (clockwise)			X	X	X				
4 / 7	270 degrees (clockwise)	X		7	7	7	4	4	4	
8	315 degrees (clockwise)			X	X	X				

ELV	**Air bleed, front position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without air bleed	X	X							
1 - 8	see cushioning position	X	X	X	X	X	X	X	X	

ELH	**Air bleed rear position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without air bleed	X	X							
1 - 8	see cushioning position	X	X	X	X	X	X	X	X	

S	**Switches**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
Z	cylinder switches								X	
N	proximity switches	X	X	X	X	X	X		X	X

SZA	**Number of switches**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
1 - 9	for S = Z								X	
1 - 2	for S = N	X	X	X	X	X	X			X

SVO	**Switch, front position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without switch	X	X	X	X	X	X	X	X	X
1 - 8	see cushioning position, Type 57=3	X	X	X	X	X	X	X	X	X

SHI	**Switches, rear position**	**41**	**44**	**46**	**47**	**48**	**51**	**53**	**55**	**57**
0	without switches	X	X	X	X	X	X		X	X
1 - 8	see cushioning position, Type 57=3									