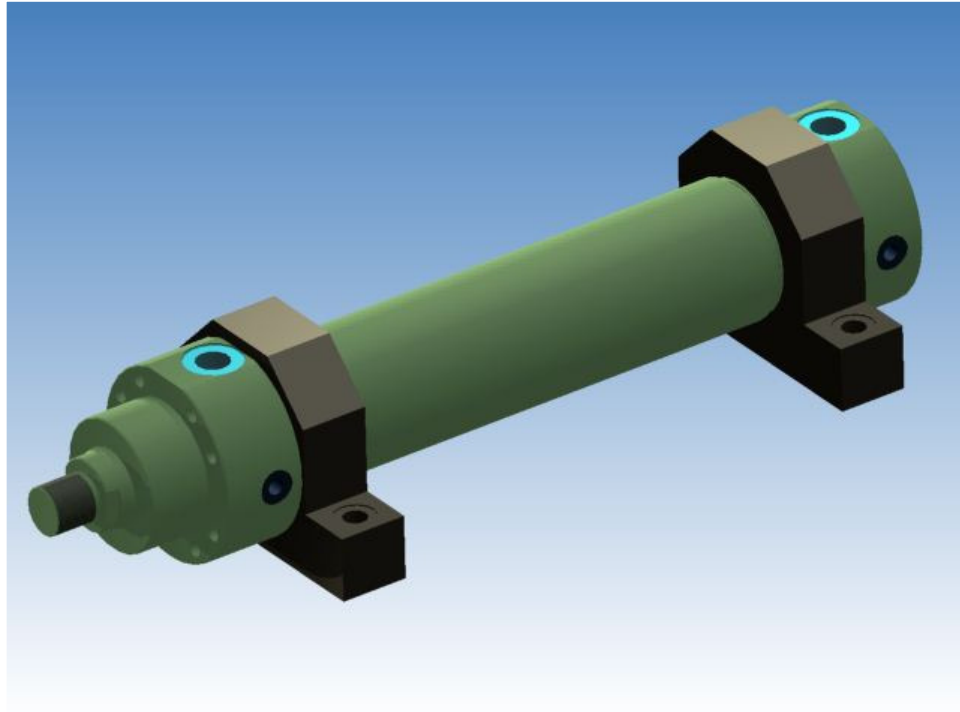




UZUN
HİDROLİK
SANAYİ ve TİCARET A.Ş.

HYDRAULIC CYLINDERS



UHSN

Nominal Pressure 250 Bar (25MPa)

ISO 6022

Contact : Istanbul Deri OSB. Karadeniz Cad.

13-2 Parsel No : 11

Orhanlı/TUZLA/ISTANBUL/TURKEY

Phone : (0216) 394 17 36-37

Fax : (0216) 394 22 92

Mail : info@uzunhidrolik.com

Web: www.uzunhidrolik.com

Technical Data

The installation dimensions and types of mounting of the cylinders comply with the standards DIN 24333 and ISO 6022.

Mounting Types : 6

Piston : Ø 40 – 200 mm

Piston Rod : Ø 25 – 140 mm

Stroke : max 3000 mm (Special stroke length deviating from standard to max. 9000 mm available on request at any time, but depends on the piston Ø, piston rod Ø and the mounting position)

Nominal Pressure : 250 bar

Test Pressure : 375 bar

The specified operating pressures apply to applications with shock-free operation with regard to excess pressure and/or external loads.

Hydraulic Fluid : DIN 51524 HL, HLP

Polyol-Ester : HFD-U

Hydraulic Fluid Temperature Range:

HL, HLP : (-40°C) – (+120°C)

HFD-U : (-40°C) – (+120°C)

Fluid temperature range : (-40°C) – (+120°C)

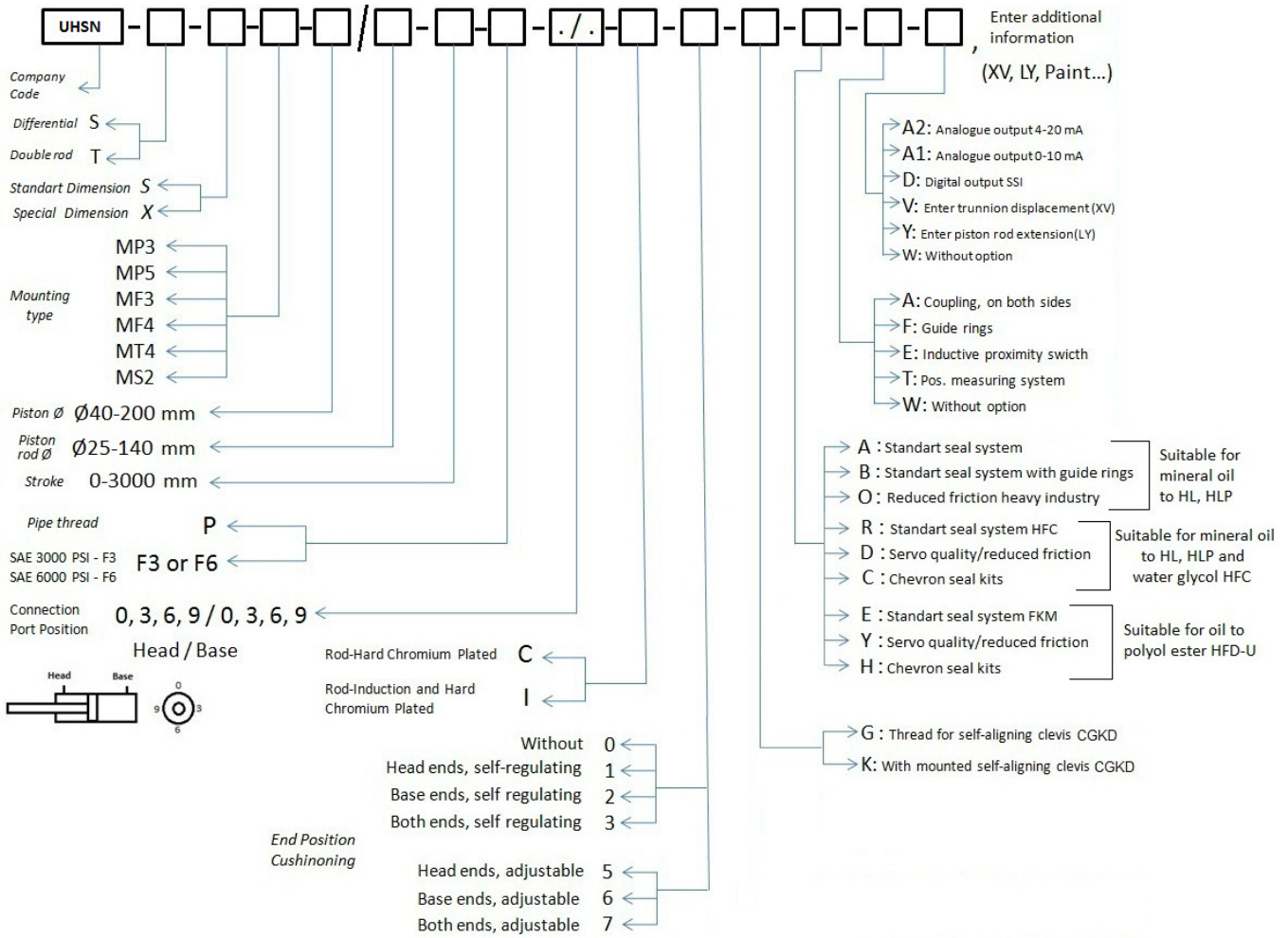
Viscosity range: 20 – 380 mm²/s (can be higher by lower temperature)

Paint: Hydraulic cylinders are primed with a coating of min. 40 µm + 40 µm topcoat RAL 5010. Paint colors may vary according to demand. Other colors upon request.

The paint and primer coat coding order information will be given as additional information.

Notice : The sketches can vary from real application . Please contact us for any related question

ENCODING ORDER



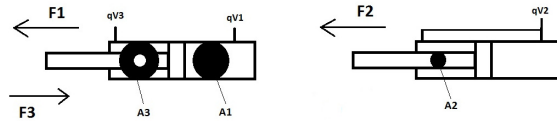
Examples of Coding :

UHSN-S-S-MP5-100/56-500-P-0/3-C-3-G-A-TF-W, Paint: RAL 5010

Remarks :

- 1) In special cylinders (UHSN-S-X- ...) size may vary.
- 2) Unless otherwise stated 0/0 valve connections, ventilation is 3/3.
- 3) Max. available stroke length page 4 and admissible stroke length observe page 15 and 16

Area, force, flow												
All \emptyset	MM \emptyset	α A ₁ /A ₃	A ₁ cm ²	A ₂ cm ²	A ₃ cm ²	F ₁ kN	F ₂ kN	F ₃ kN	Q _{v1} l/min	Q _{v2} l/min	Q _{v3} l/min	Max. Available stroke length mm
40	25	1,64	12,56	4,9	7,65	31,4	12,25	19,12	7,5	2,9	4,6	2000
	28	1,96		6,16	6,4		15,4	16		3,7	3,8	
50	32	1,69	19,63	8,04	11,59	49,1	20,12	28,98	11,8	4,8	7	2000
	36	2,08		10,18	9,45		25,45	23,65		6,1	5,7	
63	40	1,67	31,17	12,56	18,61	77,9	31,38	46,52	18,7	7,5	11,2	2000
	45	2,04		15,9	15,27		39,75	38,15		9,5	9,2	
80	50	1,66	50,26	19,63	30,63	125,65	49,07	76,58	30,2	11,8	18,4	2000
	56	1,96		24,63	25,63		61,55	64,1		14,8	15,4	
100	63	1,66	78,54	31,16	47,38	196,35	77,93	118,42	47,1	18,7	28,4	3000
	70	1,96		38,48	40,06		96,2	100,15		23,1	24	
125	80	1,69	122,72	50,24	72,48	306,75	125,62	181,13	73,6	30,14	43,46	3000
	90	2,08		63,62	59,1		159,05	147,7		38,2	35,4	
140	90	1,7	153,94	63,62	90,32	384,75	159,05	225,7	92,4	38,2	54,2	3000
	100	2,04		78,54	75,4		196,35	188,4		47,1	45,3	
160	100	1,64	201,06	78,54	122,5	502,5	196,35	306,15	120,6	47,1	73,5	3000
	110	1,9		95,06	106		237,65	264,85		57	63,6	
180	110	1,6	254,47	95,06	159,43	636,17	237,65	398,52	152,7	57	95,7	3000
	125	1,93		122,72	131,75		306,8	329,37		73,6	79,1	
200	125	1,64	314,16	122,72	191,44	785,25	306,8	478,45	188,5	73,6	114,9	3000
	140	1,96		153,96	160,2		384,9	400,35		92,4	96,1	



Note : Theoretical force (efficiency not taken into account.)

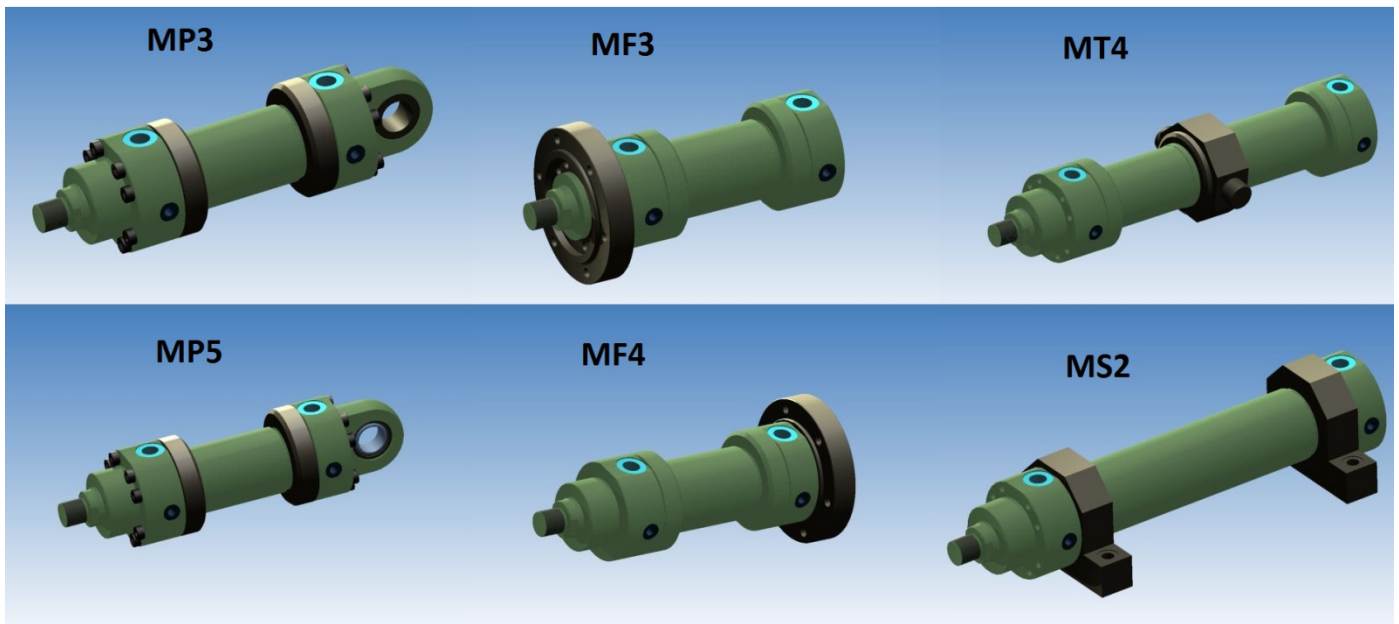
Cylinder weight												
Piston All \emptyset	Piston rod MM \emptyset	UHSN-S Cylinder with 0 mm stroke length					100 mm stroke kg	UHSN-T Cylinder with 0 mm stroke length			100 mm stroke kg	
		MP3 ¹ MP5 ¹ kg	MP3 ² MP5 ² kg	MF3 MF4 kg	MT4 kg	MS2 kg		MF3 kg	MT4 kg	MS2 kg		
40	25	7	12	9	9	9	0,9	10	10	10	1,3	
	28	7	12	9	9	9	1	10	10	10	1,5	
50	32	12	19,5	14	13	13	1,3	16	16	16	1,9	
	36	12	19,5	14	13	14	1,5	16	16	16	2,3	
63	40	20	29,5	21	21	21	2,3	25	25	25	3,3	
	45	20	29,5	21	21	21	2,6	25	25	25	3,8	
80	50	32	42,5	35	34	35	3,2	41	40	41	4,7	
	56	32	42,5	35	34	36	3,6	41	40	42	5,5	
100	63	51	64,5	54	54	55	5,2	63	63	64	7,6	
	70	51	64,5	55	54	56	5,7	64	64	65	8,8	
125	80	95	114	96	99	98	8,2	113	115	114	12,1	
	90	96	115	97	100	99	9,2	115	117	116	14,2	
140	90	131	157	132	136	137	10,7	155	158	159	15,7	
	100	132	158	133	137	138	11,9	156	160	161	18,1	
160	100	185	220	184	197	206	12,6	217	231	239	18,8	
	110	186	221	186	199	207	13,9	220	233	242	21,4	
180	110	255	303	253	264	274	14,7	294	305	314	22,1	
	125	258	304	256	267	277	16,8	300	311	320	26,5	
200	125	349	405	332	350	350	19	356	377	389	28,6	
	140	352	406	335	353	353	21,5	365	383	396	33,5	

¹: Weight without position measurement system ²: Weight with position measurement system

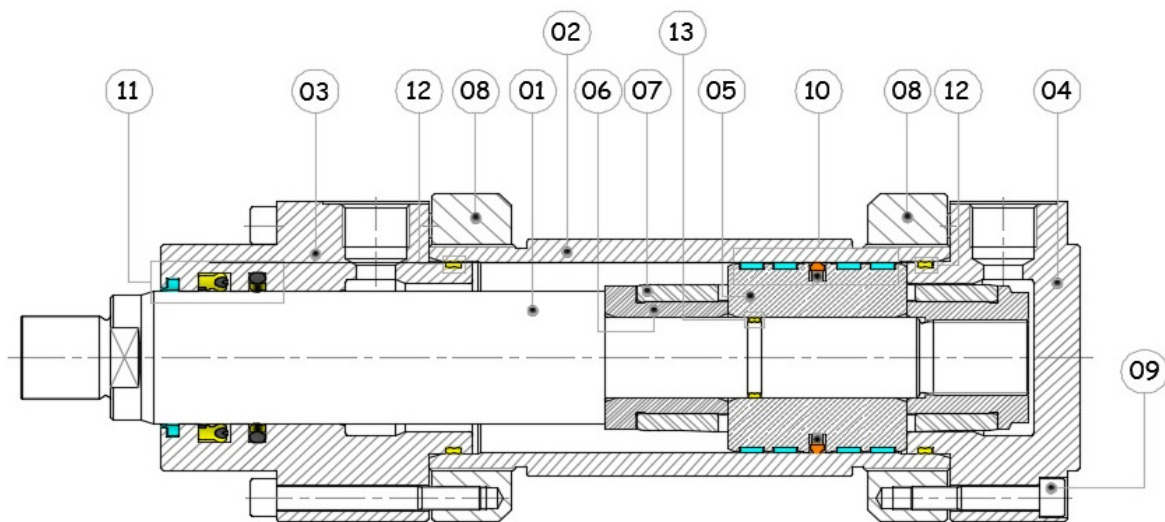
Tolerances according to ISO 6020-1							
Installation Dimensions	WC	XC ²	XO ²	XS ^{1 2}	XV ²	ZP ²	Stroke Tolerances
Mounting Types	MF3	MP3	MP5	MS2	MT4	MF4	
Stroke	Tolerance	Tolerance	Tolerance	Tolerance	Tolerance	Tolerance	Tolerance
≤ 1250	± 2	± 1,5	± 1,5	± 2	± 2	± 1,5	2
1250 - 3149	± 4	± 3	± 3	± 4	± 4	± 3	5
3150 - 8000	± 8	± 5	± 5	± 8	± 8	± 5	8

¹: Stroke length included ²: No Standardized

MOUNTING TYPE OVERVIEW



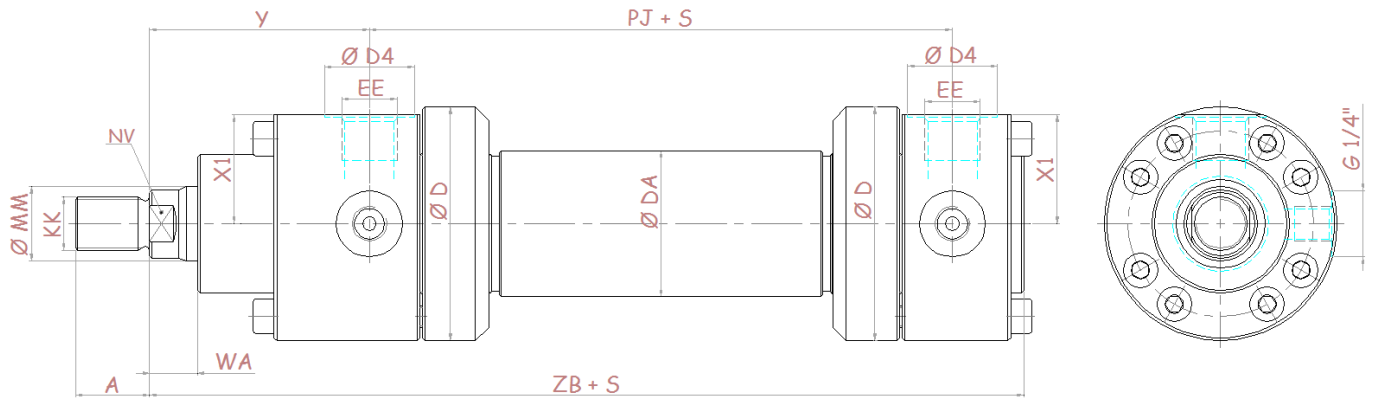
CYLINDER COMMON PARTS



- | | | |
|-------------|-------------------------------|-----------------------|
| 01 - Rod | 06 - Nut | 11 - Seal Kit of Head |
| 02 - Pipe | 07 - Cushion Busch | 12 - Static Seal |
| 03 - Head | 08 - Flange / Head and Bottom | 13 - Static Seal |
| 04 - Bottom | 09 - Bolt | |
| 05 - Piston | 10 - Seal Kit of Piston | |

BASIC VERSION

MOUNTING TYPE : ALL UHSN-S-S

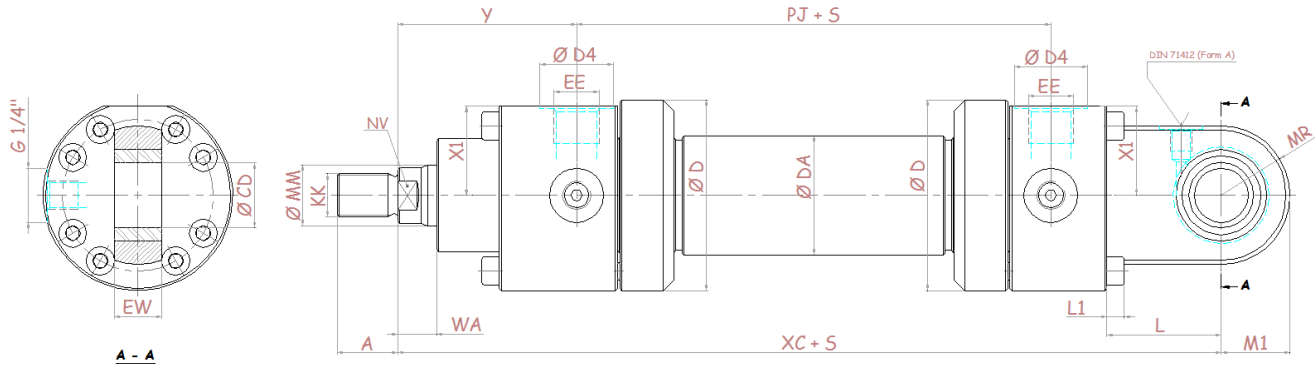


AL Ø	MM Ø	KK	A	NV	ØD	ØDA	ØD4	EE 7)	EE 7)	PJ	WA	X1	Y	ZB
40 ³	25	M20 x 1,5	28	19	88	50	34	G1/2	M22 x 1,5	120	18	41	83	282
	28			22										
50	32	M27 x 2	36	27	102	65	34	G1/2	M22 x 1,5	120	18	48,5	98	305
	36			30										
63	40	M33 x 2	45	32	120	78	42	G3/4	M27 x 2	133	21	56,5	112	348
	45			36										
80	50	M42 x 2	56	41	145	100	42	G3/4	M27 x 2	155	24	69,5	120	395
	56			46										
100	63	M48 x 2	63	50	170	125	47	G1	M33 x 2	171	27	82	134	442
	70			60										
125	80	M64 x 3	85	65	206	150	47	G1	M33 x 2	205	31	100,5	153	520
	90			75										
140	90	M72 x 3	90	75	226	170	58	G11/4	M42 x 2	219	31	109,5	166	580
	100			85										
160	100	M80 x 3	95	85	265	190	58	G11/4	M42 x 2	235	35	129,5	185	617
	110			95										
180	110	M90 x 3	105	95	292	220	58	G11/4	M42 x 2	264	40	143,5	194	690
	125			110										
200	125	M100 x 3	112	110	306	245	58	G11/4	M42 x 2	278	40	150,5	220	756
	140			120										

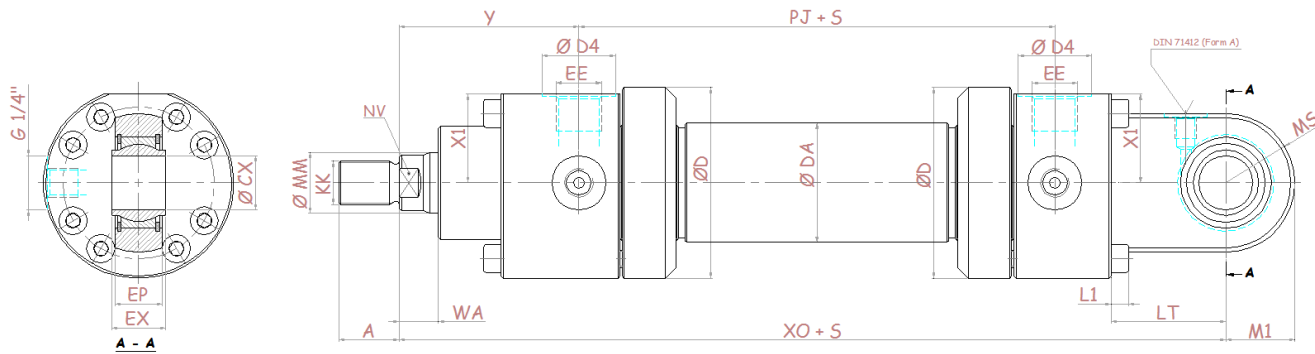
* Ø AL : Piston Ø * Ø MM : Piston rod Ø * Bleeding : With view to the piston rod, the position is offset by 90° in relation to the line connection (clockwise) * ØD4 max. 1 mm deep ³ : Piston Ø not standardized
* S : Stroke * For flange connection , see separate table on pages 12 and 13

MOUNTING TYPE : MP3 - MP5

MP3 ;



MP5 ;



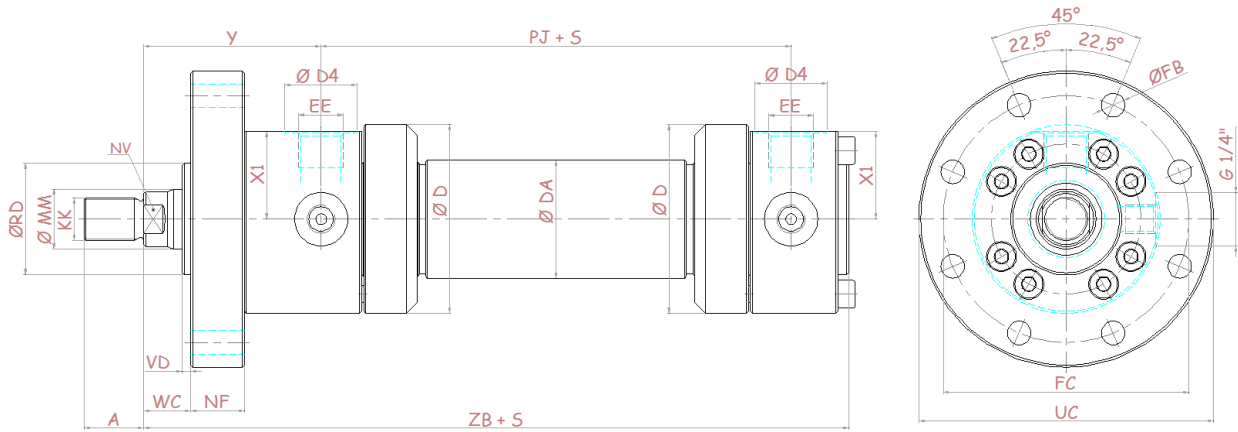
Dimensions MP3 and MP5

AL	MM	KK	A	NV	ØD	ØDA	ØD4	EE 7)	EE 7)	WA	X1	PJ	Y	CD H9	CX H7	EP	EW h12	EX h12	L	LT	L1	MR	MS	M1	XC	X0
40 ³	25	M20 x 1,5	28	19	88	50	34	G1/2	M22 x 1,5	18	41	120	83	25	25	22	25	25	53	53	8	32	32	32	282	282
	28			22																						
50	32	M27 x 2	36	27	102	70	34	G1/2	M22 x 1,5	18	48,5	120	98	32	32	27	32	32	61	61	8	40	40	40	305	305
	36			30																						
63	40	M33 x 2	45	32	120	78	42	G3/4	M27 x 2	21	56,5	133	112	40	40	32	40	40	74	74	8	50	50	50	348	348
	45			36																						
80	50	M42 x 2	56	41	145	100	42	G3/4	M27 x 2	24	69,5	155	120	50	50	40	50	50	90	90	10	63	63	63	395	395
	56			46																						
100	63	M48 x 2	63	50	170	125	47	G1	M33 x 2	27	82	171	134	63	63	52	63	63	102	102	12	71	71	71	442	442
	70			60																						
125	80	M64 x 3	85	65	206	150	47	G1	M33 x 2	31	101	205	153	80	80	66	80	80	124	124	16	90	90	90	520	520
	90			75																						
140	90	M72 x 3	90	75	226	170	58	G11/4	M42 x 2	31	110	219	166	90	90	72	90	90	149	149	16	100	100	100	580	580
	100			85																						
160	100	M80 x 3	95	85	265	190	58	G11/4	M42 x 2	35	130	235	185	100	100	84	100	100	150	150	16	112	112	112	617	617
	110			95																						
180	110	M90 x 3	105	95	292	220	58	G11/4	M42 x 2	40	144	264	194	110	110	88	110	110	180	180	20	129	129	129	690	690
	125			110																						
200	125	M100 x 3	112	110	306	245	58	G11/4	M42 x 2	40	151	278	220	125	125	102	125	125	206	206	20	145	145	145	756	756
	140			120																						

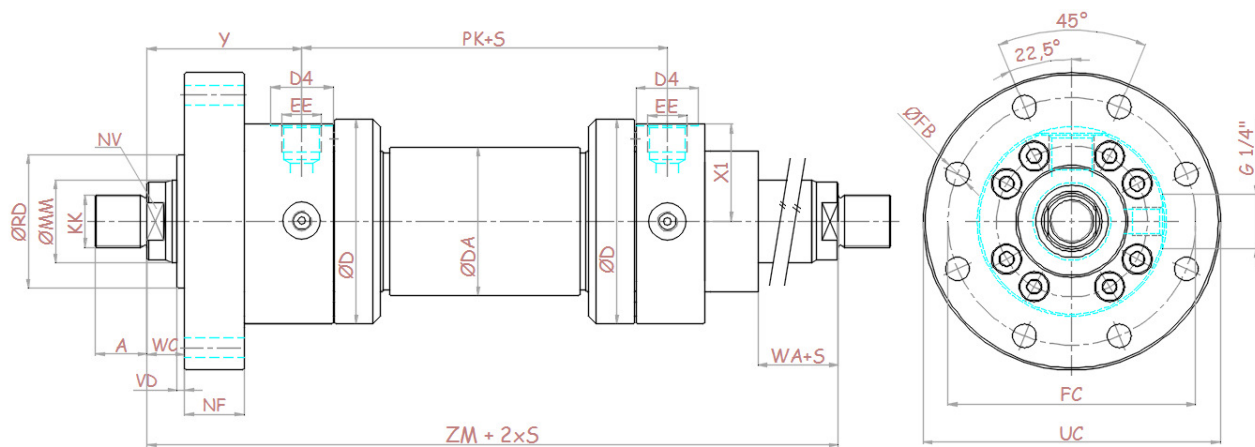
*AL : Piston Ø *MM : Piston rod *S : Stroke *³ : Piston Ø not standardized *₇) For flange connection, see separate table on pages 12 and 13 *D4 max. 1 mm deep

*Bleeding : With view to the piston rod, the piston is offset by 90° in relation to the line connection (clockwise)

MOUNTING TYPE : MF3



UHSN-T-S-MF3

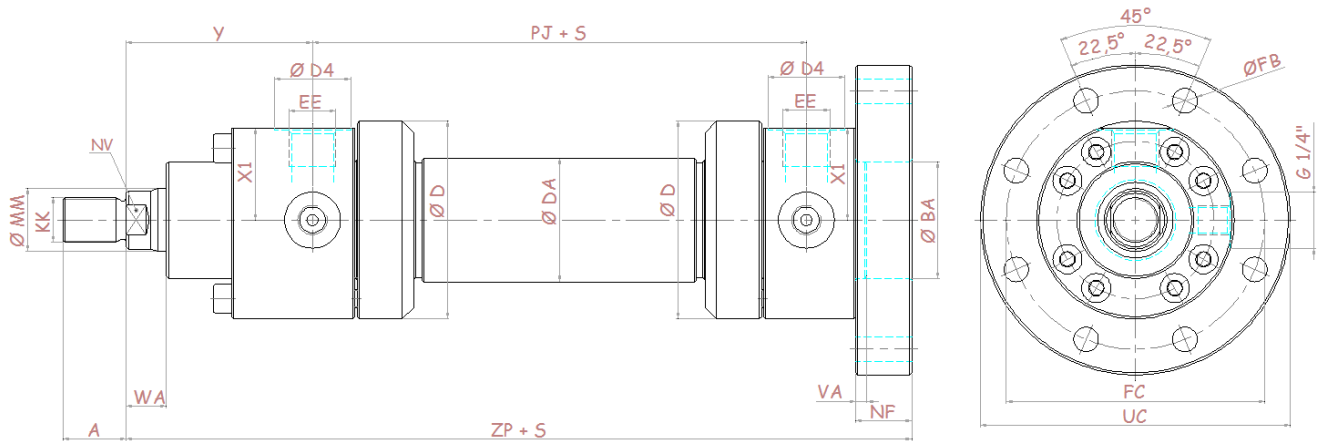


Dimensions MF3

AL Ø	MM Ø	KK	A	NV	ØD	ØDA	ØD4	EE 7)	EE 7)	Y	PJ	X1	ØRD f8	ØFB H13	FC js13	NF	PK	UC Ø-1	VD	WA	WC	ZB	ZM	&
40 ³	25 28	M20 x 1,5	28	19 22	88	50	34	G1/2	M22 x 1,5	83	120	41	52	11	115	25	120	138	4	18	22	230	286	45
50	32 36	M27 x 2	36	27 30	102	70	34	G1/2	M22 x 1,5	98	120	48,5	63	13,5	132	25	120	155	4	18	22	244	316	45
63	40 45	M33 x 2	45	32 36	120	78	42	G3/4	M27 x 2	112	133	56,5	75	13,5	150	28	133	175	4	21	25	274	357	45
80	50 56	M42 x 2	56	41 46	145	100	42	G3/4	M27 x 2	120	155	69,5	90	17,5	180	32	155	210	4	24	28	305	395	45
100	63 70	M48 x 2	63	50 60	170	125	47	G1	M33 x 2	134	171	82	110	22	212	36	171	250	5	27	32	340	439	45
125	80 90	M64 x 3	85	65 75	206	150	47	G1	M33 x 2	153	205	100,5	132	22	250	40	205	290	5	31	36	396	511	45
140	90 100	M72 x 3	90	75 85	226	170	58	G11/4	M42 x 2	166	219	109,5	145	26	285	40	219	330	5	31	36	430	551	45
160	100 110	M80 x 3	95	85 95	265	190	58	G11/4	M42 x 2	185	235	129,5	160	26	315	45	235	360	5	35	40	467	605	45
180	110 125	M90 x 3	105	95 110	292	220	58	G11/4	M42 x 2	194	264	143,5	185	33	355	50	264	410	5	40	45	510	652	45
200	125 140	M100 x 3	112	110 120	306	245	58	G11/4	M42 x 2	220	278	150,5	200	33	385	56	278	440	5	40	45	550	718	45

*AL: Piston Ø *MM: Piston rod Ø ³: Piston Ø not standardized * For main dimensions, see page 6 * S: Stroke *7) For flange connection, see separate table on pages 12 and 13
* Bleeding: With view to the piston rod, the position is offset by 90° in relation to the line connection (clockwise)

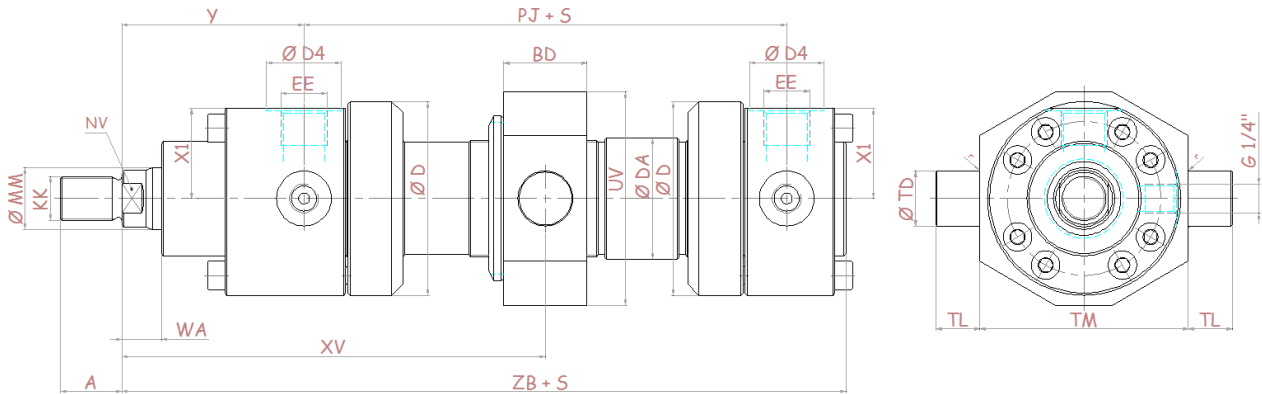
MOUNTING TYPE : MF4



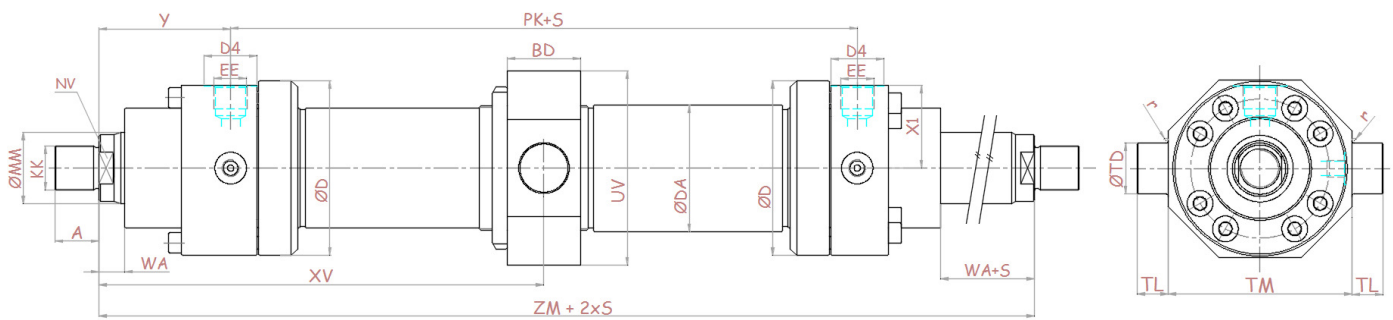
Dimensions MF4																						
AL Ø	MM Ø	KK	A	NV	ØD	ØDA	ØD4	EE 7)	EE 7)	Y	PJ	WA	X1	ZB	ØBA H8	ØFB H13	FC js13	NF js13	UC Ø-1	VA	ZP	&
40 ³	25	M20 x 1,5	28	19	88	50	34	G1/2	M22 x 1,5	83	120	18	41	282	52	11	115	25	138	5	250	45
	28			22																		
50	32	M27 x 2	36	27	102	70	34	G1/2	M22 x 1,5	98	120	18	48,5	305	63	13,5	132	25	155	4	265	45
	36			30																		
63	40	M33 x 2	45	32	120	78	42	G3/4	M27 x 2	112	133	21	56,5	348	75	13,5	150	28	175	4	298	45
	45			36																		
80	50	M42 x 2	56	41	145	100	42	G3/4	M27 x 2	120	155	24	69,5	395	90	17,5	180	32	210	5	332	45
	56			46																		
100	63	M48 x 2	63	50	170	125	47	G1	M33 x 2	134	171	27	82	442	110	22	212	36	250	5	371	45
	70			60																		
125	80	M64 x 3	85	65	206	150	47	G1	M33 x 2	153	205	31	100,5	520	132	22	250	40	290	6	430	45
	90			75																		
140	90	M72 x 3	90	75	226	170	58	G11/4	M42 x 2	166	219	31	109,5	580	145	26	280	40	325	5	465	45
	100			85																		
160	100	M80 x 3	95	85	265	190	58	G11/4	M42 x 2	185	235	35	129,5	617	160	26	315	45	360	7	505	45
	110			95																		
180	110	M90 x 3	105	95	292	220	58	G11/4	M42 x 2	194	264	40	143,5	690	185	33	350	50	405	10	550	45
	125			110																		
200	125	M100 x 3	112	110	306	245	58	G11/4	M42 x 2	220	278	40	150,5	756	200	33	385	56	440	10	596	45
	140			120																		

*AL : PistonØ *MM : Piston rodØ *S : Stroke *3 : Piston Ø not standardized *7)For flange connection, see separate table on pages 12 and 13
*Bleeding : With view toto the piston rod, the positon is offset by 90° in relation to the line connection (clockwise)

MOUNTING TYPE : MT4



UHSN-T-S-MT4



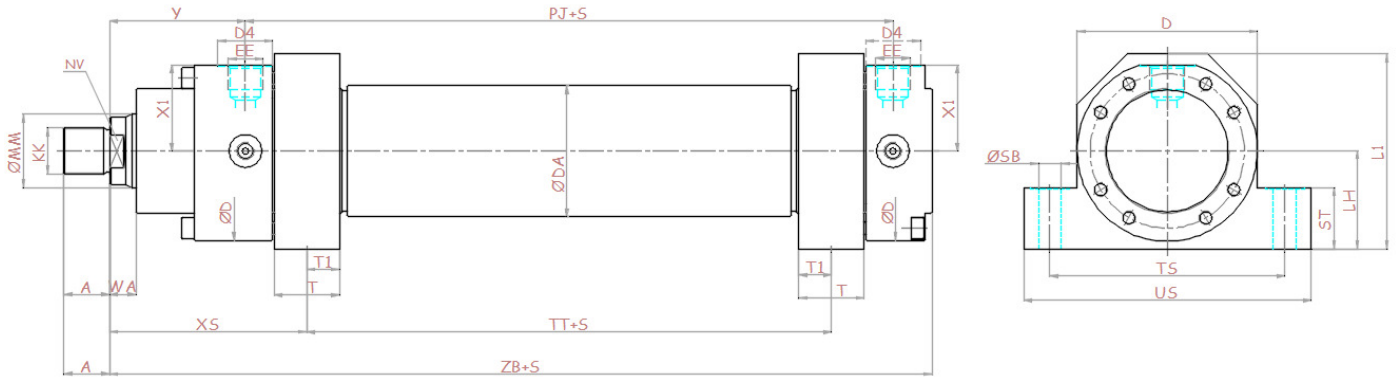
Dimensions MT4

AL Ø	MM Ø	KK	A	NV	ØD	ØDA	ØD4	EE 7)	EE 7)	Y	PJ	WA	X1	BD	PK	r	TD f8	TL js16	TM h13	UV	S min.	XV stan.	XV min.	XV max.	ZB max.	ZM
40 ³	25	M20 x 1,5	28	19	88	50	34	G1/2	M22 x 1,5	118	120	18	41	38	120	0,8	25	15	11	50	32	110	140	1	83	230
	28			27																						
50	32	M27 x 2	36	27	102	70	34	G1/2	M22 x 1,5	135,5	120	18	48,5	38	120	0,8	32	17,5	11	45	37	130	155	1	98	244
	36			30																						
63	40	M33 x 2	45	32	120	78	42	G3/4	M27 x 2	154	133	21	56,5	48	133	1	40	20	13,5	49	42	150	180	1	112	274
	45			36																						
80	50	M42 x 2	56	41	145	100	42	G3/4	M27 x 2	171,5	155	24	69,5	58	155	1	50	25	17,5	52	47	180	220	2	120	305
	56			46																						
100	63	M48 x 2	63	50	170	125	47	G1	M33 x 2	189	171	27	82	78	171	1,2	63	30	22	61	57	210	255	3	134	340
	70			60																						
125	80	M64 x 3	85	65	206	150	47	G1	M33 x 2	218	205	31	100,5	98	205	1,2	80	35	26	75	67	255	305	1	153	396
	90			75																						
140	90	M72 x 3	90	75	226	170	58	G11/4	M42 x 2	240,5	219	31	109,5	118	219	1,5	90	42,5	30	70	72	290	350	19	166	430
	100			85																						
160	100	M80 x 3	95	85	265	190	58	G11/4	M42 x 2	270	235	35	129,5	128	235	1,5	100	52,5	33	65	77	330	400	44	185	467
	110			95																						
180	110	M90 x 3	105	95	292	220	58	G11/4	M42 x 2	291,5	264	40	143,5	138	264	1,5	115	57,5	40	69	92	360	440	50	194	510
	125			110																						
200	125	M100 x 3	112	110	306	245	58	G11/4	M42 x 2	322,5	278	40	150,5	178	278	1,5	125	62,5	40	73	97	385	465	56	220	550
	140			120																						

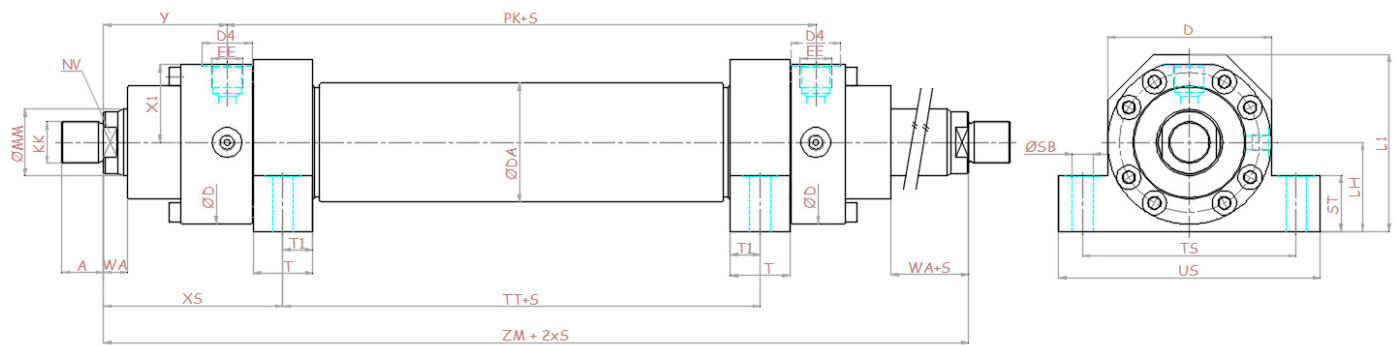
* AL : Piston Ø * MM : Piston rod Ø ³ : Piston Ø not standardized * S : Stroke * 7) Flange connection, see separate table on pages 12 and 13

* Bleeding : With view to the piston rod, the position is offset by 90° in relation to the line connection (clockwise)

MOUNTING TYPE : MS2



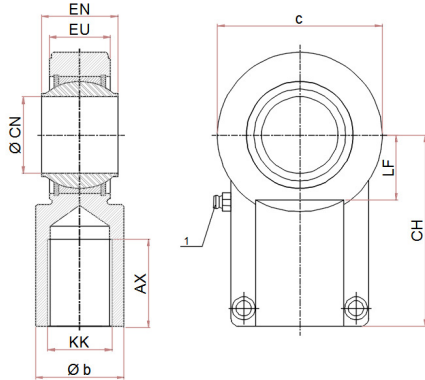
UHSN-T-S-MS2



Dimensions MS2 (mm)																											
AL	MM	KK	A	NV	$\varnothing D$	$\varnothing DA$	$\varnothing D4$	EE	EE	Y	PJ	WA	X1	LH	L1	PK	T	T1	$\varnothing SB$	TT	ST	TS	US	S	XS	ZB	ZM
\varnothing	\varnothing							7)	7)										H13			js13	$\varnothing-1$	min.	max.		
40 ³	25 28	M20 x 1,5	28	19 22	88	50	34	G1/2	M22 x 1,5	83	120	18	41	45	93	120	30	15	11	50	32	110	140	1	118	230	286
50	32 36	M27 x 2	36	27 30	102	70	34	G1/2	M22 x 1,5	98	120	18	48,5	55	110	120	35	17,5	11	45	37	130	161	1	135,5	244	316
63	40 45	M33 x 2	45	32 36	118	78	42	G3/4	M27 x 2	112	133	21	56,5	65	129	133	40	20	13,5	49	42	150	183	1	154	274	357
80	50 56	M42 x 2	56	41 46	145	100	42	G3/4	M27 x 2	120	155	24	69,5	75	149	155	50	25	17,5	52	47	180	220	2	171,5	305	395
100	63 70	M48 x 2	63	50 60	168	125	47	G1	M33 x 2	134	171	27	82	90	181	171	60	30	22	61	57	210	260	3	189	340	439
125	80 90	M64 x 3	85	65 75	206	150	47	G1	M33 x 2	153	205	31	100,5	105	215	205	70	35	26	75	67	255	305	1	218	396	511
140	90 100	M72 x 3	90	75 85	226	170	58	G11/4	M42 x 2	166	219	31	109,5	115	235	219	85	42,5	30	70	72	290	350	19	240,5	430	551
160	100 110	M80 x 3	95	85 95	265	190	58	G11/4	M42 x 2	185	235	35	129,5	135	277	235	105	52,5	33	65	77	330	402	44	270	467	605
180	110 125	M90 x 3	105	95 110	292	220	58	G11/4	M42 x 2	194	264	40	143,5	150	305	264	115	57,5	40	69	92	360	445	50	291,5	510	652
200	125 140	M100 x 3	112	110 120	308	245	58	G11/4	M42 x 2	220	278	40	150,5	160	322	278	125	62,5	40	73	97	385	471	56	322,5	550	718

* All : Piston \varnothing * MM : Piston rod \varnothing ³ : Piston \varnothing not standardized * S : Stroke *7) Flange connection, see separate table on pages 12 and 13
 * Bleeding : With view to the piston rod, the position is offset by 90° in relation to the line connection (clockwise)

SELF ALIGNING CLEVIS CGKD



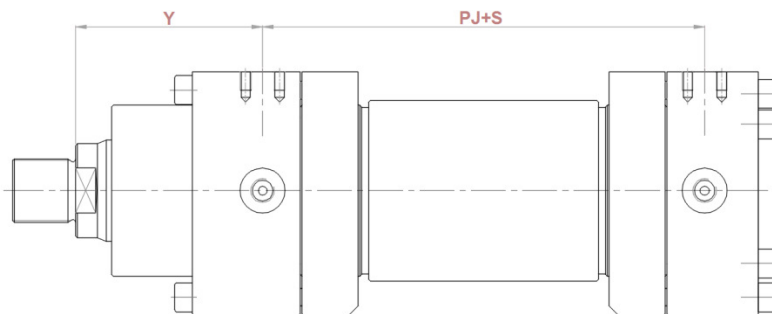
Self-aligning clevis CGKD

AL Ø	MM Ø	AX min.	b	c max.	CH js13	CN H7	EN h12	EU max.	KK	LF min.	Clamping screw ISO 4762	mA Nm	m kg	Co kN	F _{adm} kN
40	25 28	29	31	64	65	25	25	22	M20x1,5	25,5	M8 x 20	30	0,65	78	28,8
50	32 36	37	38	80	80	32	32	28	M27 x 2	30	M10 x 25	64	1,2	114	42,1
63	40 45	46	47	100	97	40	40	34	M33 x 2	39	M10 x 30	64	2,1	204	75,3
80	50 56	57	58	126	120	50	50	42	M42 x 2	47	M12 x 35	110	4,4	310	114,4
100	63 70	64	70	145	140	63	63	53,5	M48 x 2	58	M16 x 40	80	7,6	430	158,7
125	80 90	86	91	184	180	80	80	68	M64 x 3	74	M20 x 50	195	14,5	695	256,5
140	90 100	91	100	202	195	90	90	72	M72 x 3	85	M20 x 60	195	17	750	276,8
160	100 110	96	110	228	210	100	100	85,5	M80 x 3	94	M24 x 60	385	28	1060	391,1
180	110 125	106	125	258	235	110	110	88	M90 x 3	105	M24 x 60	385	32	1200	442,8
200	125 140	113	135	320	260	125	125	105	M100 x 3	116	M24 x 70	385	43	1430	527,7

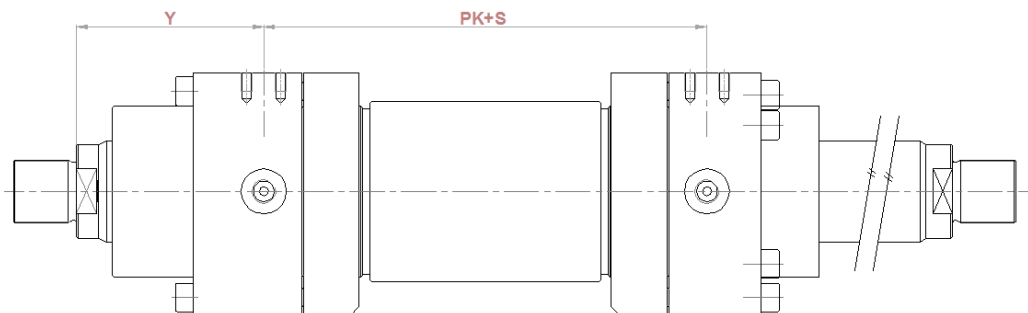
*AL : Piston Ø *MM: Piston rod Ø *1): Lubricating nipple, cone head form A according to DIN 71412 *mA: Tightening torque
 *m: weight self-aligning clevis in kg *Co : Static load rating of the self-aligning clevis
 **Fadm : Maximum admissible load of the self-aligning clevis with assillatory or alternating loads

FLANGE CONNECTIONS

UHSN-S-S-... : AL Ø 40-200 mm

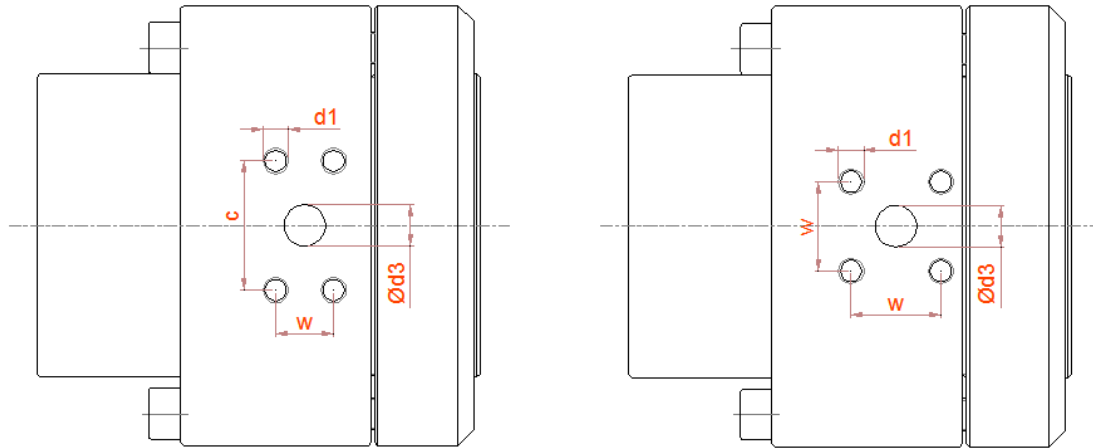


UHSN-T-S-... : AL Ø 40-200 mm



Hole pattern for rectangular flanges to ISO 6162 Table 2

Hole pattern for square flanges to ISO 6164 Table 2

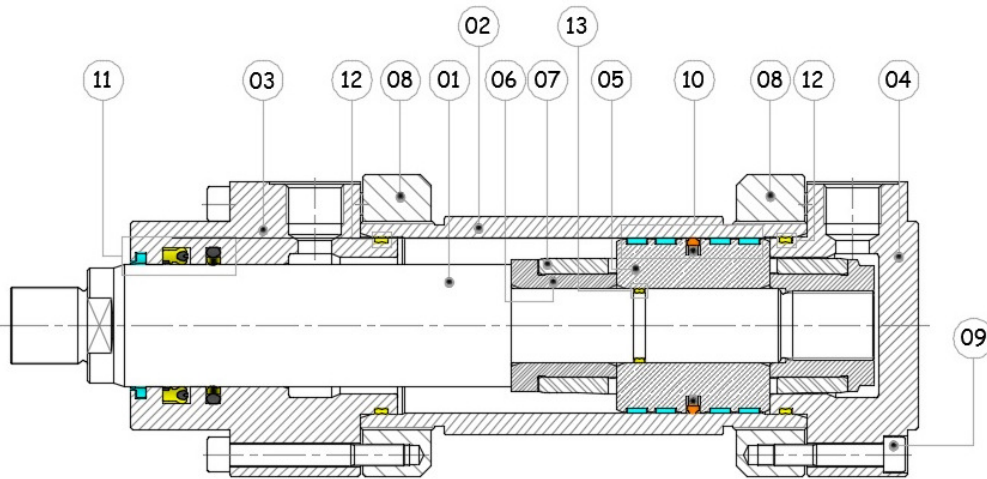


FLANGE CONNECTIONS

ISO 6162 Tab.1 (200-350 bar) (SAE 3000 PSI)												ISO 6164 Tab.2 (250 bar)									
All ϕ	Y	PJ	PK	X1	X2	d3 ϕ	d3 ² ϕ	c $\pm 0,25$	w $\pm 0,25$	d1	t1	p	Y	PJ	PK	X1	$\phi d3$	w $\pm 0,25$	d1	t1	p
40													82	122		40,5	10	24,7	M6	10	250
50													97	122		48	10	24,7	M6	12,5	250
63	111	135	55	55	13	1/2"	38,1	17,5	M8	16	350	111	135	57	13	29,7	M8	16	250		
80	123,5	148	68	68	13	1/2"	38,1	17,5	M8	16	350	123,5	148	69,5	13	29,7	M8	16	250		
100	133	173	79	79	19	3/4"	47,6	22,3	M10	20	350	133	173	81,5	19	35,4	M8	16	250		
125	153	205	98	98	25	1"	52,4	26,2	M10	20	350	157	197	100	19	35,4	M8	16	250		
140	162	227	107	107	32	1 1/4"	58,7	30,2	M10	20	250	162	227	109	25	43,8	M10	20	250		
160	181,5	242	127	127	32	1 1/4"	58,7	30,2	M10	20	250	181,5	242	128,5	25	43,8	M10	20	250		
180	193	266	139	139	38	1 1/2"	69,9	35,7	M12	24	200	194	264	142	32	51,6	M12	24	250		
200	219	280	146,5	146,5	38	1 1/2"	69,9	35,7	M12	24	200	220	278	148,5	32	51,6	M12	24	250		

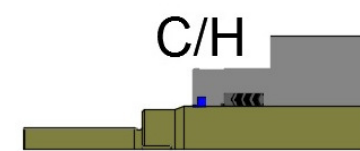
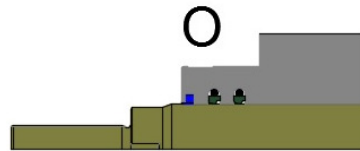
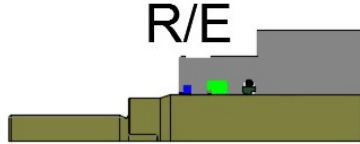
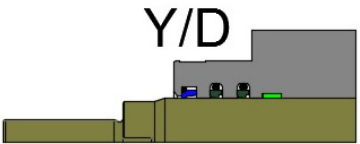
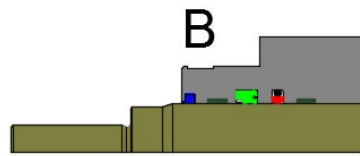
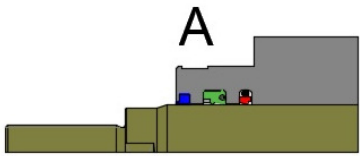
ISO 6162 Tab.2 (400 bar) (SAE 6000 PSI)												ISO 6164 Tab.2 (400 bar)									
All ϕ	Y	PJ	PK	X1	X2	d3 ϕ	d3 ³ ϕ	c $\pm 0,25$	w $\pm 0,25$	d1	t1	p	Y	PJ	PK	X1	$\phi d3$	w $\pm 0,25$	d1	t1	p
40													82	122		40,5	10	24,7	M6	10	400
50													97	122		48	10	24,7	M6	12,5	400
63													111	135		57	13	29,7	M8	16	400
80	120	155	67	67	13	1/2"	40,5	18,2	M8	16	400	123,5	148	69,5	13	29,7	M8	16	400		
100	134	171	80,5	80,5	13	1/2"	40,5	18,2	M8	16	400	133	173	81,5	19	35,4	M8	16	400		
125	153	205	97	97	19	3/4"	50,8	23,8	M10	20	400	157	197	100	19	35,4	M8	16	400		
140	162	227	107	107	25	1"	57,2	27,8	M12	24	400	162	227	109	25	43,8	M10	20	400		
160	181,5	242	127	127	25	1"	57,2	27,8	M12	24	400	181,5	242	128,5	25	43,8	M10	20	400		
180	194	264	139,5	139,5	32	1 1/4"	66,6	31,8	M14	26	400	194	264	142	32	51,6	M12	24	400		
200	220	278	147	147	32	1 1/4"	66,6	31,8	M14	26	400	220	278	148,5	32	51,6	M12	24	400		

* All ϕ : Piston ϕ * P : max. Operating pressure for related flanges in bar * 2 : Flange porting pattern according to SAE 3000 PSI * 3 : Flange porting pattern according to SAE 6000 PSI * t1 : Thread depth



- | | | |
|-------------|-------------------------------|-----------------------|
| 01 - Rod | 06 - Nut | 11 - Seal Kit of Head |
| 02 - Pipe | 07 - Cushion Busch | 12 - Static Seal |
| 03 - Head | 08 - Flange / Head and Bottom | 13 - Static Seal |
| 04 - Bottom | 09 - Bold | |
| 05 - Piston | 10 - Seal Kit of Piston | |

11

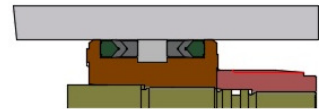


10

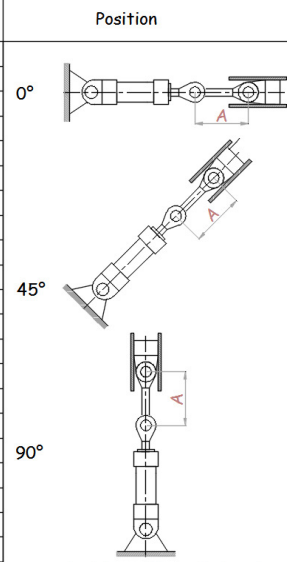
A,B,Y,D,R,E,O



C,H

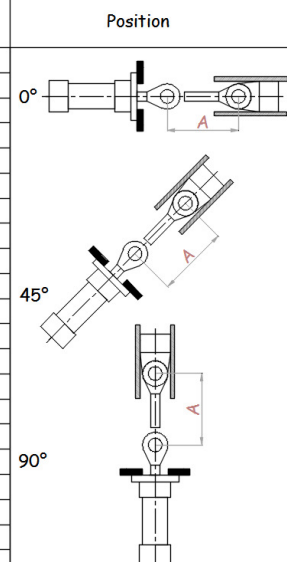


Admissible stroke length for MP3 and MP5								Position
ØAL	ØMM	160 bar			250 bar			
		0°	45°	90°	0°	45°	90°	
40	25	130	135	140	40	45	55	0°
	28	295	300	320	215	220	225	
50	32	280	285	300	195	200	205	45°
	36	395	405	430	290	295	305	
63	40	365	370	385	255	260	265	90°
	45	505	515	550	380	385	395	
80	50	455	465	495	330	335	345	45°
	56	615	630	685	470	475	495	
100	63	595	610	660	445	455	470	90°
	70	775	800	885	605	615	650	
125	80	780	805	880	595	605	635	45°
	90	1030	1070	1200	825	840	895	
140	90	875	905	1000	675	685	725	90°
	100	1120	1165	1325	900	920	985	
160	100	955	985	1085	735	750	785	45°
	110	1195	1240	1400	955	975	1040	
180	110	1010	1045	1150	775	790	830	90°
	125	1365	1420	1620	1100	1125	1205	
200	125	1180	1220	1365	915	935	990	45°
	140	1525	1590	1840	1240	1270	1370	



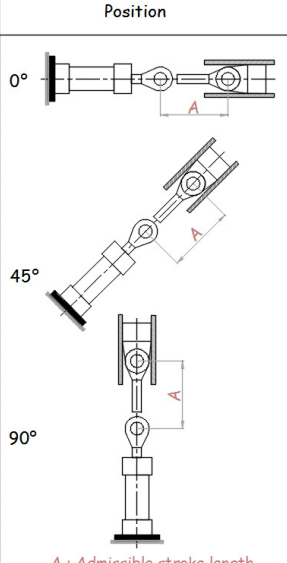
A : Admissible stroke length

Admissible stroke length for MF3								Position
ØAL	ØMM	160 bar			250 bar			
		0°	45°	90°	0°	45°	90°	
40	25	730	735	760	440	450	510	0°
	28	1180	1205	1275	970	980	1010	
50	32	1210	1230	1300	985	995	1025	45°
	36	1510	1545	1675	1255	1270	1320	
63	40	1475	1510	1620	1215	1230	1270	90°
	45	1830	1880	2080	1540	1560	1640	
80	50	1810	1850	1995	1495	1515	1570	45°
	56	2000	2000	2000	1870	1900	2000	
100	63	2235	2300	2550	1785	1910	2010	90°
	70	2690	2780	3000	2300	2350	2520	
125	80	2840	2930	3000	2400	2450	2590	45°
	90	3000	3000	3000	3000	3000	3000	
140	90	3000	3000	3000	2700	2760	2950	90°
	100	3000	3000	3000	3000	3000	3000	
160	100	3000	3000	3000	2920	2980	3000	45°
	110	3000	3000	3000	3000	3000	3000	
180	110	3000	3000	3000	3000	3000	3000	90°
	125	3000	3000	3000	3000	3000	3000	
200	125	3000	3000	3000	3000	3000	3000	45°
	140	3000	3000	3000	3000	3000	3000	



A : Admissible stroke length

Admissible stroke length for MF4								Position
ØAL	ØMM	160 bar			250 bar			
		0°	45°	90°	0°	45°	90°	
40	25	245	250	260	105	110	140	0°
	28	465	475	520	365	370	385	
50	32	485	495	530	370	375	390	45°
	36	630	650	715	505	515	540	
63	40	600	615	675	470	480	500	90°
	45	780	805	905	630	645	685	
80	50	750	775	845	595	605	630	45°
	56	960	990	1120	785	800	850	
100	63	945	980	1105	770	785	835	90°
	70	1175	1220	1420	980	1000	1090	
125	80	1225	1270	1450	1000	1025	1100	45°
	90	1540	1610	1910	1300	1340	1470	
140	90	1370	1425	1650	1135	1165	1260	90°
	100	1675	1755	2110	1425	1470	1630	
160	100	1490	1545	1780	1230	1260	1360	45°
	110	1785	1870	2230	1510	1560	1720	
180	110	1595	1660	1910	1315	1350	1450	90°
	125	2040	2130	2580	1735	1790	1990	
200	125	1830	1910	2250	1530	1570	1715	45°
	140	2260	2370	2920	1940	2010	2255	



A : Admissible stroke length

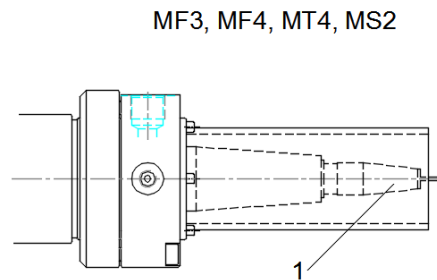
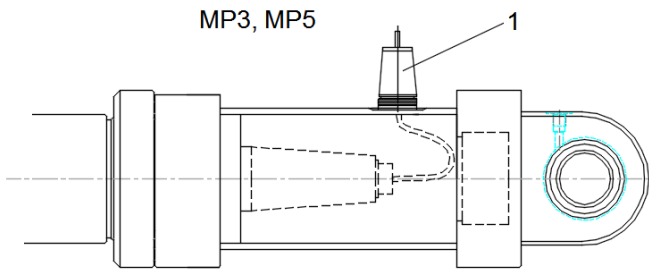
Admissible stroke length for MT4								Position
ØAL	ØMM	160 bar			250 bar			0°
		0°	45°	90°	0°	45°	90°	
40	25	250	255	260	130	135	145	
	28	470	480	500	365	370	375	
50	32	470	480	495	355	360	365	
	36	625	635	670	485	490	505	
63	40	590	600	630	450	455	465	
	45	770	790	845	610	620	640	
80	50	735	750	790	570	575	590	
	56	950	975	1045	755	765	790	
100	63	940	960	1030	740	750	775	
	70	1180	1210	1330	955	970	1015	
125	80	1220	1250	1350	970	985	1020	
	90	1550	1600	1780	1275	1300	1370	
140	90	1370	1410	1540	1100	1120	1170	
	100	1700	1755	1970	1400	1430	1515	
160	100	1485	1520	1660	1190	1210	1260	
	110	1800	1860	2080	1480	1510	1595	
180	110	1590	1635	1780	1275	1295	1350	
	125	2065	2130	2400	1710	1740	1850	
200	125	1840	1890	2090	1490	1510	1590	
	140	2300	2380	2720	1915	1960	2100	

A : Admissible stroke length

Admissible stroke length for MS2								Position
ØAL	ØMM	160 bar			250 bar			0°
		0°	45°	90°	0°	45°	90°	
40	25	645	650	665	370	375	410	
	28	1085	1110	1180	875	885	910	
50	32	1095	1120	1190	875	885	910	
	36	1395	1430	1560	1140	1160	1210	
63	40	1345	1380	1490	1085	1100	1145	
	45	1700	1750	1950	1410	1435	1510	
80	50	1665	1710	1850	1350	1370	1425	
	56	2000	2000	2000	1730	1760	1860	
100	63	2080	2140	2390	1720	1750	1850	
	70	2530	2630	3000	2140	2190	2360	
125	80	2660	2750	3000	2220	2270	2410	
	90	3000	3000	3000	2810	2890	3000	
140	90	2970	3000	3000	2490	2550	2740	
	100	3000	3000	3000	3000	3000	3000	
160	100	3000	3000	3000	2690	2750	2950	
	110	3000	3000	3000	3000	3000	3000	
180	110	3000	3000	3000	2890	2960	3000	
	125	3000	3000	3000	3000	3000	3000	
200	125	3000	3000	3000	3000	3000	3000	
	140	3000	3000	3000	3000	3000	3000	

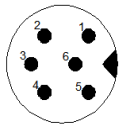
A : Admissible stroke length

Technische Daten		
Operating Pressure		250 bar
Analog outout	Voltage	0 bis 10 V
	Current	4.....20 mA
	Resolution	16 bit ; 0.00015 % (Minimum 1 µm)
Digital output		SSI 8....32 bit
	Resolution	0.5µm, 2 µm, 5 µm, 10 µm
Linearity	Analog	<±0.01 % F.S Max ± 40 µm
	Digital	<±0.01 % F.S Max ± 40 µm
Reproducibility	Analog	<±0.001 % F.S Min ± 1 µm
	Digital	<±0.001 % F.S Min ± 2.5 µm
Hysteresis		< 4 µm
Electrical Connection	Supply Voltage	24 VDC (-15 / +20 %)
	Current Consumption	100 mA
	Residual ripple	≤ 0.28 Vpp
Protection class	Pipe	IP65
	Rod	IP67
	Cable	IP68
	RS	IP69K
Operating temperature		von -40°Cbis +75°C
Temperature coefficient	Analog	< 30 ppm/°C
	Digital	< 15 ppm/°C

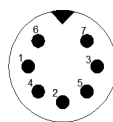


1) Plug-in connector is not included within the scope of supply.

Analog Output - 6 pin



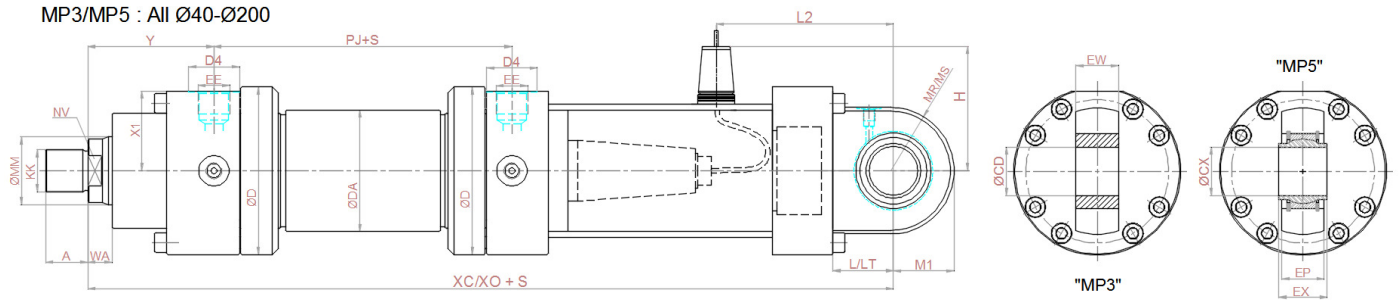
Pin	Cable	Signal/current	Signal/voltage
1	grey	4...20 mA	0-10 V
2	pink	Gnd	Gnd
3	yellow	n.c.	10-0 V
4	green	n.c.	Gnd
5	brown	+24 V DC(±25%)	+24 V DC(±25%)
6	white	Gnd	Gnd



Digital Output- 7 pin

Pin	Cable	Signal/current
1	grey	Data (-)
2	pink	Data (+)
3	yellow	Tact (+)
4	green	Tact (-)
5	green	+24 V DC(+20%/-15%)
6	white	0 V
7	-	n.c.

POSITION MEASURING SYSTEM : MP3 and MP5



Position Measuring System: MP3 and MP5

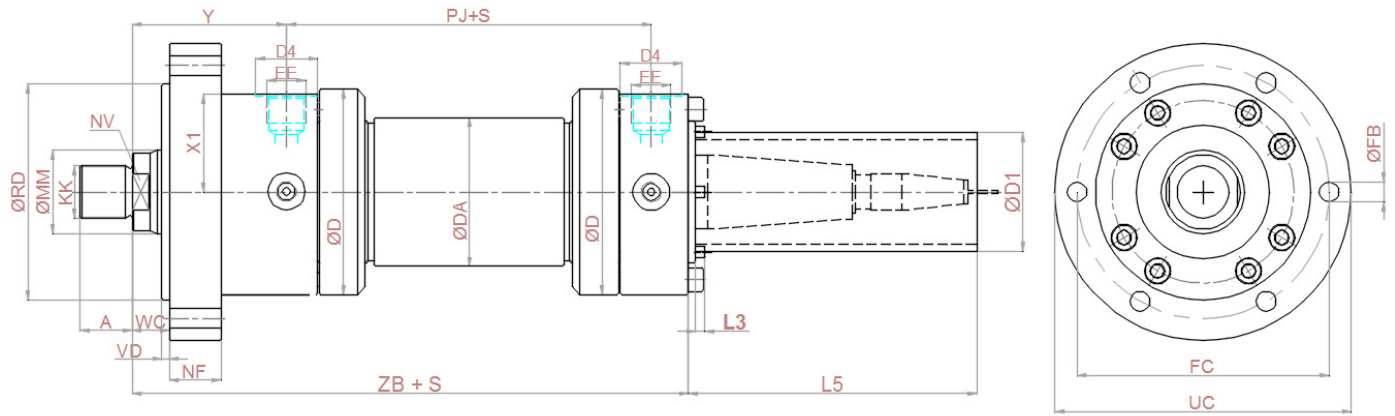
AL Ø	MM Ø	KK	A	NV	ØD	ØDA	D4 ₂₎	EE	EE	Y	PJ	X1	WA	CD H9	CX H7	EP	EW h12	EX h12	L	LT	L1	L2	H	MR	MS	M1	XC	XO	S max
40 ³⁾	25 28	M20x1,5	28	19 22	88	50	34	G1/2	M22x1,5	83	120	41	18	25	25	22	25	25	53	53	8	124	115	32	32	32	282	282	1000
50	32 36	M27x2	36	27 30	102	70	34	G1/2	M22x1,5	98	120	48,5	18	32	32	27	32	32	61	61	8	132	120	40	40	40	305	305	1000
63	40 45	M33x2	45	32 36	120	78	42	G3/4	M27x2	112	133	56,5	21	40	40	32	40	40	74	74	8	150	130	50	50	50	348	348	2000
80	50 56	M42x2	56	41 46	145	100	42	G3/4	M27x2	120	155	69,5	24	50	50	40	50	50	90	90	10	176,5	125	63	63	63	395	395	2000
100	63 70	M48x2	63	50 60	170	125	47	G1	M33x2	134	171	82	27	63	63	52	63	63	102	102	12	192	135	71	71	71	442	442	3000
125	80 90	M64x3	85	65 75	206	150	47	G1	M33x2	153	205	100,5	31	80	80	66	80	80	124	124	16	227	145	90	90	90	520	520	3000
140	90 100	M72x3	90	75 85	226	170	58	G11/4	M42x2	166	219	109,5	31	90	90	72	90	90	149	149	16	262	155	100	100	100	580	580	3000
160	100 110	M80x3	95	85 95	265	190	58	G11/4	M42x2	185	235	129,5	35	100	100	84	100	100	150	150	16	269,5	165	112	112	112	617	617	3000
180	110 125	M90x3	105	95 110	292	220	58	G11/4	M42x2	194	264	143,5	40	110	110	88	110	110	180	180	20	307	175	129	129	129	690	690	3000
200	125 140	M100x3	112	110 120	306	245	58	G11/4	M42x2	220	278	150,5	40	125	125	102	125	125	206	206	20	333	190	145	145	145	756	756	3000

*AL : PistonØ *MM : Piston rodØ * S : Stroke *³⁾ : Piston Ø not standardized 2)ØD4 max. 1 mm deep

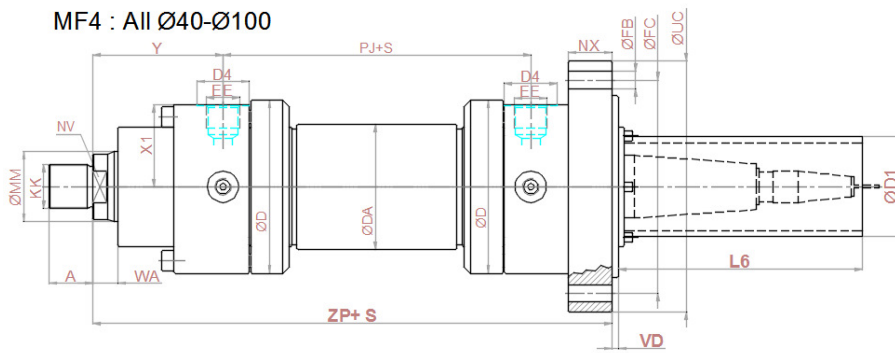
* Flange connection see separate table pages 12 and 13

POSITION MEASURING SYSTEM: MF3 - MF4

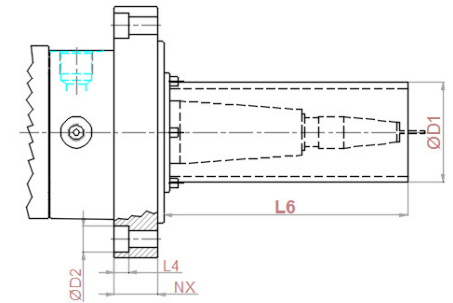
MF3 : All Ø40-Ø200



MF4 : All Ø40-Ø100



MF4 : All Ø100-Ø200



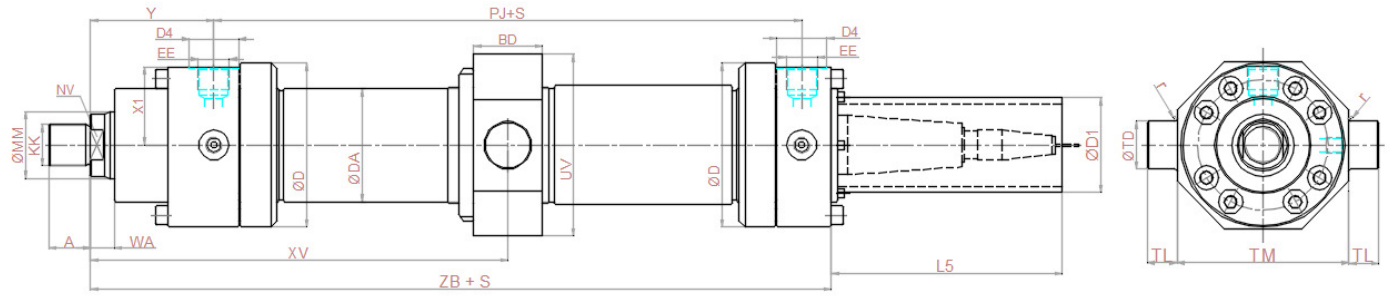
Position Measuring System: MF3 and MF4

AL Ø	MM Ø	KK	A	NV	ØD	ØDA	D4 2)	EE	EE	Y	PJ	X1	WC	WA	VD	NF js13	NX js13	ØRD f8	ØFB H13	ØFC js13	ØUC -1	ZB max	ZP	L3	L4	L5	L6	ØD1 max	ØD2	S max
40 ³	25 28	M20x1,5	28	19 22	88	50	34	G1/2	M22x1,5	83	120	41	22	18	4	25	28	52	11	115	138	239	262	12	3	166	166	80	18	1000
50	32 36	M27x2	36	27 30	102	70	34	G1/2	M22x1,5	98	120	48,5	22	18	4	25	28	63	13,5	132	155	254	278	12	3	166	166	96	20	1000
63	40 45	M33x2	45	32 36	120	78	42	G3/4	M27x2	112	133	56,5	25	21	4	28	28	75	13,5	150	175	299	313	12	0	166	166	96	0	2000
80	50 56	M42x2	56	41 46	145	100	42	G3/4	M27x2	120	155	69,5	28	24	4	32	32	90	17,5	180	210	332,5	350	12	0	166	166	96	0	2000
100	63 70	M48x2	63	50 60	170	125	47	G1	M33x2	134	171	82	32	27	5	36	36	110	22	212	250	362	390	12	0	166	138	96	0	3000
125	80 90	M64x3	85	65 75	206	150	47	G1	M33x2	153	205	100,5	36	31	5	40	55	132	22	250	290	410	445	12	21,5	166	131	96	33	3000
140	90 100	M72x3	90	75 85	226	170	58	G11/4	M42x2	166	219	109,5	36	31	5	40	60	145	26	285	330	440	485	12	25,5	166	121	96	40	3000
160	100 110	M80x3	95	85 95	265	190	58	G11/4	M42x2	185	235	129,5	40	35	5	45	65	160	26	315	360	472,5	525	12	25,5	166	113,5	96	40	3000
180	110 125	M90x3	105	95 110	292	220	58	G11/4	M42x2	194	264	143,5	45	40	5	50	70	185	33	355	410	510	570	12	32	166	106	96	48	3000
200	125 140	M100x3	112	110 120	306	245	58	G11/4	M42x2	220	278	150,5	45	40	5	56	76	200	33	385	440	550	616	12	32	166	100	96	48	3000

*AL : Piston Ø *MM : Piston rod Ø *S : Stroke *³ : Piston Ø not standardized 2) ØD4 max. 1 mm deep

* Flange connection see separate table pages 12 and 13

POSITION MEASURING SYSTEM: MT4



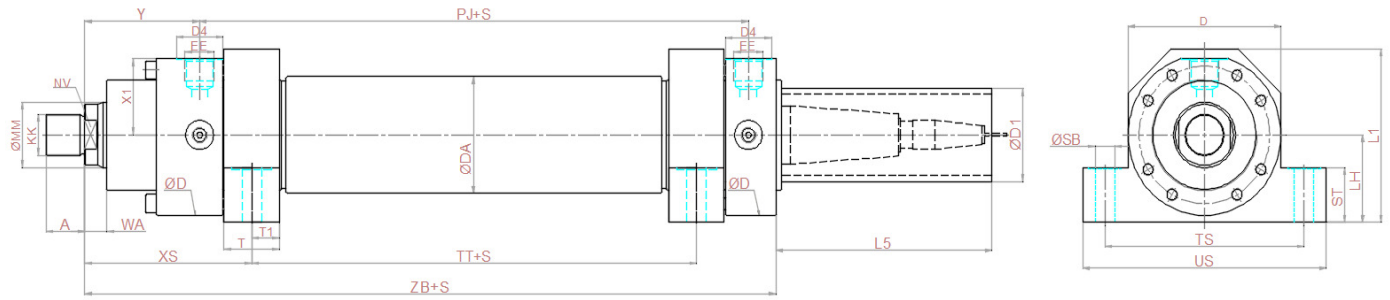
Position Measuring System: MT4

AL Ø	MM Ø	KK	A	NV	ØD	ØDA	D4 2)	EE	EE	Y	PJ	X1	WA	UV	BD	XV stan.	XV min.	XV max.	ØTD f8	ZB max	r	TL js16	TM h12	L5	ØD1 max.	S min.	S max.
40 ³	25 28	M20x1,5	28	19 22	88	50	34	G1/2	M22x1,5	83	120	41	18	97	38	143+S/2	154	140+S	25	239	0,8	20	95	166	80	22	1000
50	32 36	M27x2	36	27 30	102	70	34	G1/2	M22x1,5	98	120	48,5	18	111	38	158+S/2	174	151+S	32	254	0,8	25	112	166	96	32	1000
63	40 45	M33x2	45	32 36	120	78	42	G3/4	M27x2	112	133	56,5	21	129	48	178,5+S/2	202	167+S	40	299	1	32	125	166	96	47	2000
80	50 56	M42x2	56	41 46	145	100	42	G3/4	M27x2	120	155	69,5	24	163	58	197,5+S/2	226,5	180,5+S	50	332,5	1	40	150	166	96	58	2000
100	63 70	M48x2	63	50 60	170	125	47	G1	M33x2	134	171	82	27	188	78	219,5+S/2	259	195+S	63	362	1,2	50	180	166	96	79	3000
125	80 90	M64x3	85	65 75	206	150	47	G1	M33x2	153	205	100,5	31	234	98	255,5+S/2	301	225+S	80	410	1,2	63	224	166	96	91	3000
140	90 100	M72x3	90	75 85	226	170	58	G11/4	M42x2	166	219	109,5	31	257	118	275,5+S/2	336	230+S	90	440	1,5	70	265	166	96	121	3000
160	100 110	M80x3	95	85 95	265	190	58	G11/4	M42x2	185	235	129,5	35	287	128	302,5+S/2	373,5	251,5+S	100	472,5	1,5	80	280	166	96	142	3000
180	110 125	M90x3	105	95 110	292	220	58	G11/4	M42x2	194	264	143,5	40	328	138	326+S/2	405	267+S	110	510	1,5	90	320	166	96	158	3000
200	125 140	M100x3	112	110 120	306	245	58	G11/4	M42x2	220	278	150,5	40	343	178	359+S/2	461	277+S	125	550	1,5	100	335	166	96	204	3000

*AL : Piston Ø *MM : Piston rod Ø * S : Stroke * 3 : Piston Ø not standardized 2) ØD4 max. 1 mm deep

* Flange connection see separate table pages 12 and 13

POSITION MEASURING SYSTEM: MS2



Position Measuring System: MS2

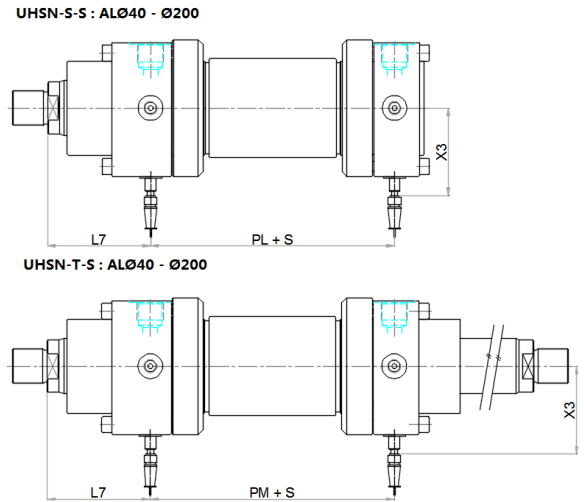
AL Ø	MM Ø	KK	A	NV	ØD	ØDA	D4 2)	EE	EE	Y	PJ	X1	WA	XS	T1	T	TT	ØD1 max.	SB H13	ZB max.	TS js13	US	ST	L5	LH	L1	S min.	S max.
40 ³	25 28	M20x1,5	28	19 22	88	50	34	G1/2	M22x1,5	83	120	41	18	118	15	30	50	80	11	239	110	140	32	166	45	93	1	1000
50	32 36	M27x2	36	27 30	102	70	34	G1/2	M22x1,5	98	120	48,5	18	135,5	17,5	35	45	96	11	254	130	161	37	166	55	110	1	1000
63	40 45	M33x2	45	32 36	120	78	42	G3/4	M27x2	112	133	56,5	21	154	20	40	49	96	13,5	299	150	183	42	166	65	129	1	2000
80	50 56	M42x2	56	41 46	145	100	42	G3/4	M27x2	120	155	69,5	24	171,5	25	50	52	96	17,5	332,5	180	220	47	166	75	149	2	2000
100	63 70	M48x2	63	50 60	170	125	47	G1	M33x2	134	171	82	27	189	30	60	61	96	22	362	210	260	57	166	90	181	3	3000
125	80 90	M64x3	85	65 75	206	150	47	G1	M33x2	153	205	100,5	31	218	35	70	75	96	26	410	255	305	67	166	105	215	1	3000
140	90 100	M72x3	90	75 85	226	170	58	G11/4	M42x2	166	219	109,5	31	240,5	42,5	85	70	96	30	440	290	350	72	166	115	235	19	3000
160	100 110	M80x3	95	85 95	265	190	58	G11/4	M42x2	185	235	129,5	35	270	52,5	105	65	96	33	472,5	330	402	77	166	135	277	44	3000
180	110 125	M90x3	105	95 110	292	220	58	G11/4	M42x2	194	264	143,5	40	291,5	57,5	115	69	96	40	510	360	445	92	166	150	305	50	3000
200	125 140	M100x3	112	110 120	306	245	58	G11/4	M42x2	220	278	150,5	40	322,5	62,5	125	73	96	40	550	385	471	97	166	160	322	56	3000

*AL : PistonØ *MM : Piston rodØ *S : Stroke *³ : Piston Ø not standardized 2) ØD4 max. 1 mm deep

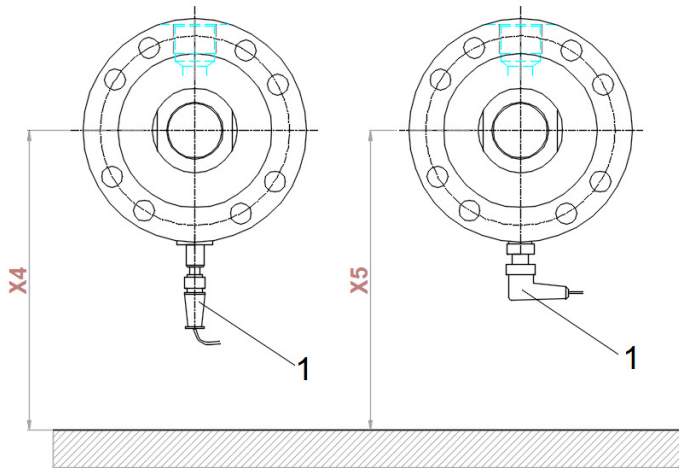
* Flange connection see separate table pages 12 and 13

PROXIMITY SWITCH

Proximity Switch							
All \varnothing	MM \varnothing	PL	PM	L7	X3	X4	X5
40	25 28	112	112	87	94	170	125
50	32 36	110	110	103	98	175	130
63	40 45	125	125	116	103	180	135
80	50 56	138	138	128,5	108	185	140
100	63 70	161	161	139	116	195	150
125	80 90	189	189	161	126	205	160
140	90 100	209	209	171	146	225	180
160	100 110	228	228	188,5	151	230	185
180	110 125	254	254	199	159	235	190
200	125 140	264	264	227	166	245	200
		* All : Piston \varnothing		* MM : Piston rod \varnothing			



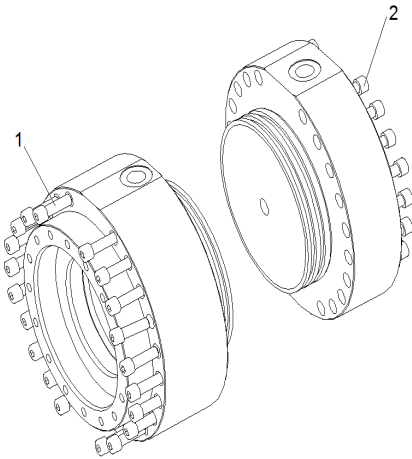
Mounting Types



1) Plug-in connector is not included within the scope of supply

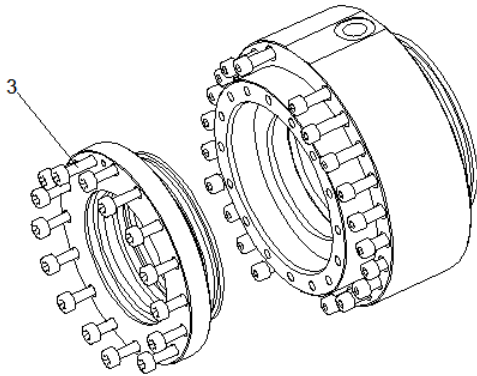
2) Proximity switch type :: BES-516-300-S135-S4-D (Balluff)

TIGHTENING TORQUE : Head (1) and Base (2)



Screw : Head and Base					
Series	Piston \emptyset	Screw	Quantity	Grade	Tightening torque
UHS2	40	M8	4	10.9	23 Nm
UHS2	50	M8	8	10.9	20 Nm
UHS2	63	M8	8	10.9	30 Nm
UHS2	80	M10	8	10.9	55 Nm
UHS2	100	M12	8	10.9	100 Nm
UHS2	125	M16	8	10.9	200 Nm
UHS2	140	M16	12	10.9	170 Nm
UHS2	160	M16	12	10.9	220 Nm
UHS2	180	M20	12	10.9	350 Nm
UHS2	200	M20	12	10.9	410 Nm

TIGHTENING TORQUE: Seal Cover (3)



Screw : Seal cover						
Series	Piston \emptyset	Piston rod \emptyset	Screw	Quantity	Grade	Tightening torque
UHS2	160	100	M10	16	10.9	60 Nm
		110				
UHS2	180	110	M12	16	10.9	80 Nm
		125				
UHS2	200	125	M12	16	10.9	90 Nm
		140				

Please contact us for further information.

Contact : info@uzunhidrolik.com

Tel: +90 216 394 17 36

Notice