KIT COMPONENTS
CH SERIES

STANDARD ISO 6020/2 - 1991 -
DIN 24554 160 BAR COMPACT SERIES

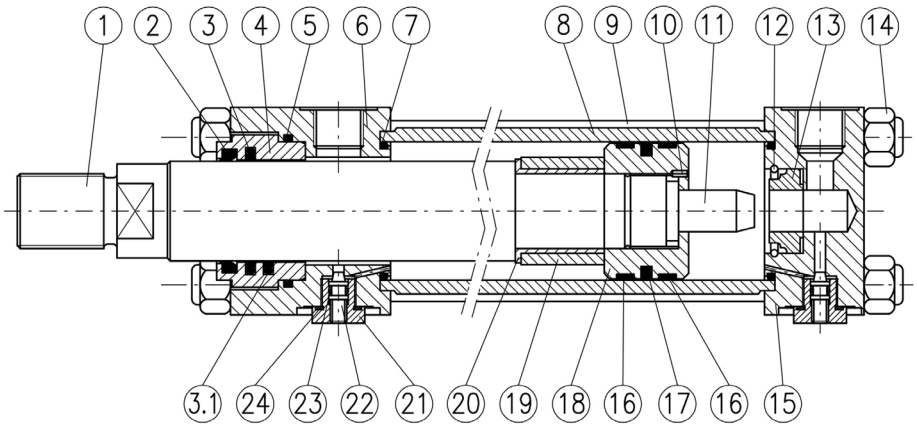
GRICES HYDRAULIC CYLINDERS

KIT COMPONENTS CH SERIES

STANDARD ISO 6020/2 - 1991 -
DIN 24554 160 BAR COMPACT SERIES

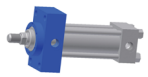
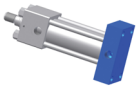
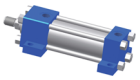
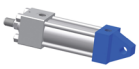
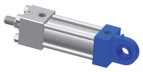
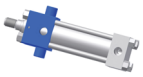
Grices offers assembly kits for the CH series (ISO 6020/2) and the CHM (ISO 6020/2 magnetic), the simple assembling process does not require any particular equipment.

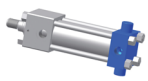
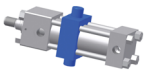
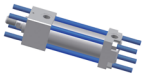
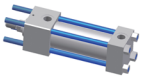
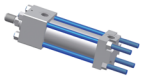
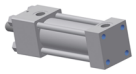
The offer includes all the standard mounting styles that follow the ISO 6020/2 standard; the components' modularity reduces the necessity to stock, since the high flexibility of the configurations makes them suitable for multiple applications.



N°	ITEM	MATERIAL
1	Rod	Chromium-plated steel
2	Scraper	Polyurethane / PTFE
3	Rod seal	Polyurethane / PTFE
3.1	2nd Rod seal (option L)	NBR e PTFE
4	Guide sleeve	Spheroidal cast iron
5	O-Ring + PBK	NBR + Polyurethane
6	Head	Steel
7	O-Ring + PBK	NBR + Polyurethane
8	Body	Steel
9	Tie rod	Steel
10	Safety pin	Steel
11	Cushioning spur	Steel
12	Toroidal ring	Steel
13	Rear cushioning sleeve	Bronze
14	Self-braking nut	Steel
15	Rear head	Steel
16	Slide ring	PTFE
17	Piston seal	Polyurethane / PTFE
18	Piston	Steel
19	Anti-friction slide	Steel
20	Spacer	Steel
21	Locknut	Steel
22	Adjustment needle	Steel
23	O-Ring + PBN	NBR + Polyurethane
24	O-Ring seal	NBR

Mounting style

FA ISO ME5	**FP** ISO ME6	**PI** ISO MS2	**CM** ISO MP3	**CF** ISO MP1	**CS** ISO MP5	**OA** ISO MT1
						

OP ISO MT2	**OI** ISO MT4	**AP** ISO MX1	**TA** ISO MX3	**TP** ISO MX2	**ZA** ISO MX5	**ZP** ISO MX6
						

EXAMPLE OF ORDER ACRONYM

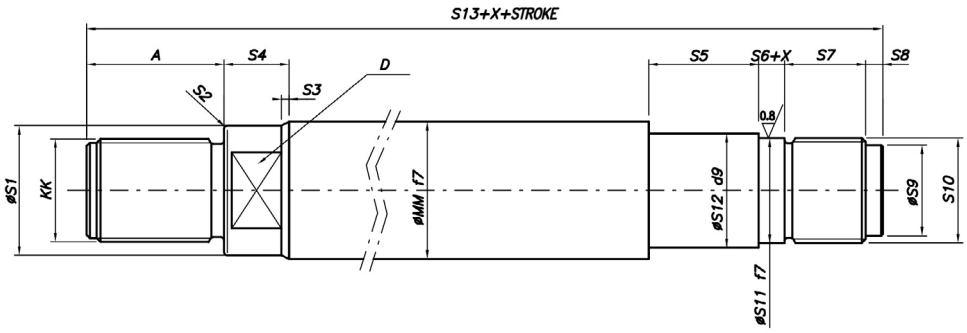
KH/40/28/OI01A0Q1000R100

CHARACTERISTIC	DESCRIPTION	SYM.	EXAMPLE
SERIES	Tie rod execution	**KH**	**KH**/
BORE	Indicate mm		KH/**40**/
ROD	Indicate mm		KH/40/**28**/
EXECUTION	Rear + front protruding tie rods - MX1	**AP**	KH/40/28/**OI**
	Front flange - ME5	**FA**	
	Rear flange - ME6	**FP**	
	Feet - MS2	**PI**	
	Female hinge - MP1	**CF**	
	Male hinge - MP3	**CM**	
	Joint hinge -MP5	**CS**	
	Front trunnion - MT1	**OA**	
	Intermediate trunnion - MT4	**OI**	
	Rear trunnion - MT2	**OP**	
	Front protruding tie rods MX3	**TA**	
	Rear protruding tie rods - MX2	**TP**	
	Front treaded holes - MX5	**ZA**	
	Rear treaded holes - MX6	**ZP**	
CUSHIONING	None	**0**	KH/40/28/OI**0**
	Front cushioning	**1**	
	Rear cushioning	**2**	
	Front cushioning + rear	**3**	
SPACER	None	**0**	KH/40/28/OI0**1**
	50 mm	**1**	
	100 mm	**2**	
	150 mm	**3**	
	200 mm	**4**	
SEALS	Polyurethane (standard)	**A**	KH/40/28/OI01**A**
	Nitrile + ptfe (anti-friction)	**B**	
	Viton + ptfe (high temperatures)	**C**	
	Nitrile+carbographite(anti-friction water glycol)	**E**	
AIR BLEEDS	None	**0**	KH/40/28/OI01A00**0**
	Front	**G**	
	Rear	**H**	
	Front + rear	**I**	

CHARACTERISTIC	DESCRIPTION				SYM.	EXAMPLE
FRONT HEAD						
POS. OIL PORTS	Side **1**	Side **2**	Side **3**	Side **4**		KH/40/28/OI01A0**Q1**
POS. CUSHIONING	**0** if not requested					KH/40/28/OI01A0Q1**0**
	Side **1**	Side **2**	Side **3**	Side **4**		
POS. AIR BLEED	**0** if not requested					KH/40/28/OI01A0Q10**0**
	Side **1**	Side **2**	Side **3**	Side **4**		
REAR HEAD						
POS. OIL PORTS	Side **1**	Side **2**	Side **3**	Side **4**		KH/40/28/OI01A0Q100**R1**
POS. CUSHIONING	**0** if not requested					KH/40/28/OI01A0Q100R1**0**
	Side **1**	Side **2**	Side **3**	Side **4**		
POS. AIR BLEED	**0** if not requested					KH/40/28/OI01A0Q100R10**0**
	Side **1**	Side **2**	Side **3**	Side **4**		

For further information on ports, air bleeds and cushioning position see paragraph 1.6 of CH series

ROD DIMENSIONS

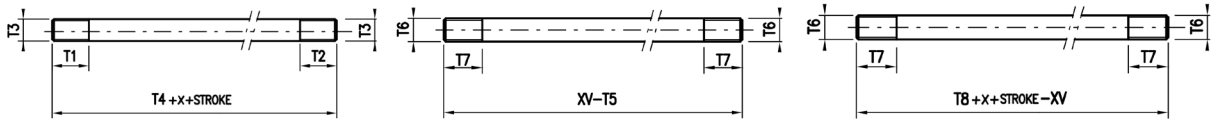


BORE	MM	KK	A	D	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13
25	12	M10x1,25	14	10	11	1	1	8	23	3	16	0	-	M10x1	10	10	98
	18	M14x1,5	18	15	17	1	1	8	23	3	16	0	-	M10x1	10	10	102
32	14	M12x1,25	16	12	13	1,3	1	11	23	4	19	0	-	M12x1,25	12	12	114
	22	M16x1,5	22	18	21	1,3	1	11	23	4	19	0	-	M12x1,25	12	12	120
40	18	M14x1,5	18	15	17	1,3	1	8	32	10	16	3	14	M16x1,5	16	16	127
	28	M20x1,5	28	22	27	1,7	1	11	32	10	16	3	14	M16x1,5	16	16	137
50	22	M16x1,5	22	18	21	1,5	1	11	33	6	20	3	17	M20x1,5	20	20	137
	28	M20x1,5	28	22	27	1,7	1	11	33	6	20	3	17	M20x1,5	20	20	143
	36	M27x2	36	30	34	2	2	13	33	6	20	3	17	M20x1,5	20	20	151
63	28	M20x1,5	28	22	27	1,7	1	11	33	7	21	3	18	M24x1,5	24	24	152
	36	M27x2	36	30	34	2	2	13	33	7	21	3	18	M24x1,5	24	24	160
	45	M33x2	45	39	43	2	2	14	33	7	21	3	21,5	M24x1,5	24	24	169
80	36	M27x2	36	30	34	2,3	2	13	33	8	24	6	27	M30x2	32	32	175
	45	M33x2	45	39	43	2,3	2	14	33	8	24	6	27	M30x2	32	32	184
	56	M42x2	56	48	54	2,3	2	19	33	8	24	6	27	M30x2	32	32	195
100	45	M33x2	45	39	43	2	2	14	35	9	31	5	30	M33x2	35	40	197
	56	M42x2	56	48	54	2,3	2	19	35	9	31	5	30	M33x2	35	40	208
	70	M48x2	63	62	68	2,7	2	22	35	9	31	5	30	M33x2	35	40	215
125	56	M42x2	56	48	54	2,3	2	19	36	10	40	3	44	M48x2	50	50	224
	70	M48x2	63	62	68	2,7	2	22	36	10	40	3	44	M48x2	50	50	231
	90	M64x3	85	80	88	2,7	2	22	36	10	40	3	44	M48x2	50	50	253
160	70	M48x2	63	62	68	2,7	2	22	41	13	38	2	59,5	M64x3	65	65	231
	90	M64x3	85	80	88	2,7	2	22	41	13	38	2	59,5	M64x3	65	65	253
	110	M80x3	95	100	108	2,7	2	22	41	13	38	2	59,5	M64x3	65	65	263
200	90	M64x3	85	80	88	2,7	2	22	38,8	13	59	5	75	M80x3	82	85	295
	110	M80x3	95	100	108	2,7	2	22	38,8	13	59	5	75	M80x3	82	85	305
	140	M100x3	112	128	138	2,7	2	22	38,8	13	59	5	75	M80x3	82	85	322

X quote = number of spacers for 50mm

TIE RODS DIMENSIONS

Execution OI MT4



BORE	EXECUTION	T1	T2	T3	T4	T5	T6	T7	T8
25	AP	29	29	M5x0,8	137	-	-	-	-
	CF	10	10	M5x0,8	89	-	-	-	-
	CM	10	10	M5x0,8	89	-	-	-	-
	CS	10	10	M5x0,8	89	-	-	-	-
	FA	10	10	M5x0,8	64	-	-	-	-
	FP	10	10	M5x0,8	89	-	-	-	-
	OA	10	10	M5x0,8	111	-	-	-	-
	OI	-	-	-	-	10	M5x0,8	10	119
	OP	10	10	M5x0,8	111	-	-	-	-
	PI	10	10	M5x0,8	111	-	-	-	-
	TA	29	10	M5x0,8	124	-	-	-	-
	TP	10	25	M5x0,8	124	-	-	-	-
	ZP	10	15	M5x0,8	95	-	-	-	-
	ZA	10	10	M5x0,8	64	-	-	-	-
32	AP	35	35	M6x1	151	-	-	-	-
	CF	15	15	M6x1	98	-	-	-	-
	CM	15	15	M6x1	98	-	-	-	-
	CS	15	15	M6x1	98	-	-	-	-
	FA	15	15	M6x1	74	-	-	-	-
	FP	15	15	M6x1	99	-	-	-	-
	OA	15	15	M6x1	119	-	-	-	-
	OI	-	-	-	-	17	M6x1	15	136
	OP	15	15	M6x1	119	-	-	-	-
	PI	15	15	M6x1	119	-	-	-	-
	TA	35	15	M6x1	135	-	-	-	-
	TP	15	35	M6x1	135	-	-	-	-
	ZP	15	15	M6x1	96	-	-	-	-
	ZA	15	15	M6x1	76	-	-	-	-
40	AP	45	50	M8x1	198	-	-	-	-
	CF	15	15	M8x1	113	-	-	-	-
	CM	15	15	M8x1	113	-	-	-	-
	CS	15	15	M8x1	113	-	-	-	-
	FA	15	15	M8x1	96	-	-	-	-
	FP	15	15	M8x1	113	-	-	-	-
	OA	15	15	M8x1	144	-	-	-	-
	OI	-	-	-	-	17	M8x1	15	161
	OP	15	15	M8x1	144	-	-	-	-
	PI	15	15	M8x1	144	-	-	-	-
	TA	50	15	M8x1	171	-	-	-	-
	TP	15	50	M8x1	171	-	-	-	-
	ZP	15	15	M8x1	113	-	-	-	-
	ZA	15	15	M8x1	96	-	-	-	-

X quote = number of spacers for 50mm

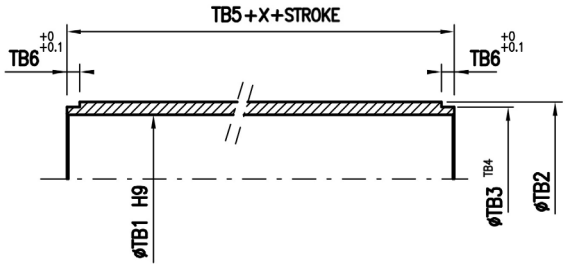
BORE	EXECUTION	T1	T2	T3	T4	T5	T6	T7	T8
50	AP	62	62	M12x1,25	226	-	-	-	-
	CF	20	20	M12x1,25	130	-	-	-	-
	CM	20	20	M12x1,25	130	-	-	-	-
	CS	20	20	M12x1,25	130	-	-	-	-
	FA	20	20	M12x1,25	107	-	-	-	-
	FP	20	20	M12x1,25	130	-	-	-	-
	OA	20	20	M12x1,25	160	-	-	-	-
	OI	-	-	-	-	11	M12x1,25	20	173
	OP	20	20	M12x1,25	160	-	-	-	-
	PI	20	20	M12x1,25	160	-	-	-	-
	TA	62	20	M12x1,25	194	-	-	-	-
	TP	20	62	M12x1,25	194	-	-	-	-
	ZP	20	20	M12x1,25	130	-	-	-	-
	ZA	20	20	M12x1,25	107	-	-	-	-
63	AP	62	62	M12x1,25	226	-	-	-	-
	CF	20	20	M12x1,25	132	-	-	-	-
	CM	20	20	M12x1,25	132	-	-	-	-
	CS	20	20	M12x1,25	132	-	-	-	-
	FA	20	20	M12x1,25	109	-	-	-	-
	FP	20	20	M12x1,25	132	-	-	-	-
	OA	20	20	M12x1,25	164	-	-	-	-
	OI	-	-	-	-	18	M12x1,25	20	182
	OP	20	20	M12x1,25	164	-	-	-	-
	PI	20	20	M12x1,25	164	-	-	-	-
	TA	62	20	M12x1,25	196	-	-	-	-
	TP	20	62	M12x1,25	196	-	-	-	-
	ZP	20	20	M12x1,25	132	-	-	-	-
	ZA	20	20	M12x1,25	109	-	-	-	-
80	AP	84	84	M16x1,5	277	-	-	-	-
	CF	25	25	M16x1,5	152	-	-	-	-
	CM	25	25	M16x1,5	152	-	-	-	-
	CS	25	25	M16x1,5	152	-	-	-	-
	FA	25	25	M16x1,5	127	-	-	-	-
	FP	25	25	M16x1,5	152	-	-	-	-
	OA	25	25	M16x1,5	195	-	-	-	-
	OI	-	-	-	-	13	M16x1,5	25	208
	OP	25	25	M16x1,5	195	-	-	-	-
	PI	25	25	M16x1,5	195	-	-	-	-
	TA	84	25	M16x1,5	236	-	-	-	-
	TP	25	84	M16x1,5	236	-	-	-	-
	ZP	25	25	M16x1,5	152	-	-	-	-
	ZA	25	25	M16x1,5	132	-	-	-	-
100	AP	84	84	M16x1,5	286	-	-	-	-
	CF	25	25	M16x1,5	161	-	-	-	-
	CM	25	25	M16x1,5	161	-	-	-	-
	CS	25	25	M16x1,5	161	-	-	-	-
	FA	25	25	M16x1,5	135	-	-	-	-
	FP	25	25	M16x1,5	161	-	-	-	-
	OA	25	25	M16x1,5	134	-	-	-	-
	OI	-	-	-	-	21	M16x1,5	25	216
	OP	25	25	M16x1,5	161	-	-	-	-
	PI	25	25	M16x1,5	204	-	-	-	-
	TA	84	25	M16x1,5	245	-	-	-	-
	TP	25	84	M16x1,5	245	-	-	-	-
	ZP	25	25	M16x1,5	161	-	-	-	-
	ZA	25	25	M16x1,5	139	-	-	-	-

X quote = number of spacers for 50mm

BORE	EXECUTION	T1	T2	T3	T4	T5	T6	T7	T8
125	AP	108	108	M22x1,5	359	-	-	-	-
	CF	30	30	M22x1,5	194	-	-	-	-
	CM	30	30	M22x1,5	194	-	-	-	-
	CS	30	30	M22x1,5	194	-	-	-	-
	FA	30	30	M22x1,5	172	-	-	-	-
	FP	30	30	M22x1,5	194	-	-	-	-
	OA	30	30	M22x1,5	167	-	-	-	-
	OI	-	-	-	-	15	M22x1,5	30	253
	OP	30	30	M22x1,5	194	-	-	-	-
	PI	30	30	M22x1,5	247	-	-	-	-
	TA	105	30	M22x1,5	303	-	-	-	-
	TP	30	108	M22x1,5	303	-	-	-	-
	ZP	30	30	M22x1,5	194	-	-	-	-
	ZA	30	30	M22x1,5	172	-	-	-	-
160	AP	120	120	M27x2	397	-	-	-	-
	CF	40	40	M27x2	212	-	-	-	-
	CM	40	40	M27x2	212	-	-	-	-
	CS	40	40	M27x2	212	-	-	-	-
	FA	40	40	M27x2	196	-	-	-	-
	FP	40	40	M27x2	212	-	-	-	-
	OA	40	40	M27x2	275	-	-	-	-
	OI	-	-	-	-	10	M27x2	40	267
	OP	40	40	M27x2	212	-	-	-	-
	PI	40	40	M27x2	275	-	-	-	-
	TA	120	40	M27x2	336	-	-	-	-
	TP	40	120	M27x2	336	-	-	-	-
	ZP	40	40	M27x2	212	-	-	-	-
	ZA	40	40	M27x2	200	-	-	-	-
200	AP	150	150	M30x2	497	-	-	-	-
	CF	40	40	M30x2	261	-	-	-	-
	CM	40	40	M30x2	261	-	-	-	-
	CS	40	40	M30x2	261	-	-	-	-
	FA	40	40	M30x2	239	-	-	-	-
	FP	40	40	M30x2	261	-	-	-	-
	OA	40	40	M30x2	234	-	-	-	-
	OI	-	-	-	-	13	M30x2	40	318
	OP	40	40	M30x2	261	-	-	-	-
	PI	40	40	M30x2	333	-	-	-	-
	TA	150	40	M30x2	333	-	-	-	-
	TP	40	150	M30x2	415	-	-	-	-
	ZP	40	40	M30x2	261	-	-	-	-
	ZA	40	40	M30x2	239	-	-	-	-

X quote = number of spacers for 50mm

TUBES
DIMENSIONS



BORE	TB1	TB2	TB3	TB4	TB5	TB6
25	25	33	30	-0,077 / -0,020	29,2	2,6
32	32	40	37	-0,087 / -0,025	33,2	2,6
40	40	50	49,5	-0,087 / -0,025	49	8
50	50	60	59,5	-0,104 / -0,03	49	8
63	63	73	72,5	-0,104 / -0,03	51	8
80	80	95	94	-0,123 / -0,036	58	8
100	100	115	114	-0,123 / -0,036	65	8
125	125	140	139	-0,143 / -0,043	73	8
160	160	180	178	-0,143 / -0,043	77	8
200	200	230	228	-0,165 / -0,055	101	8

X quote = number of spacers for 50mm