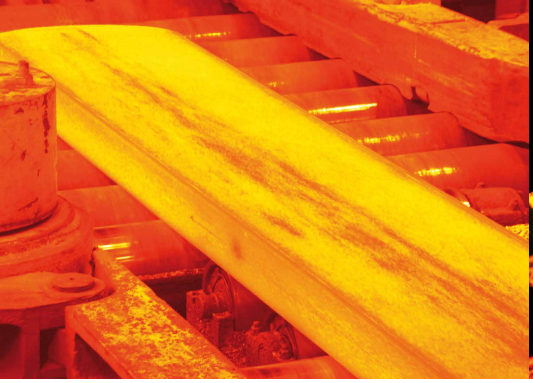
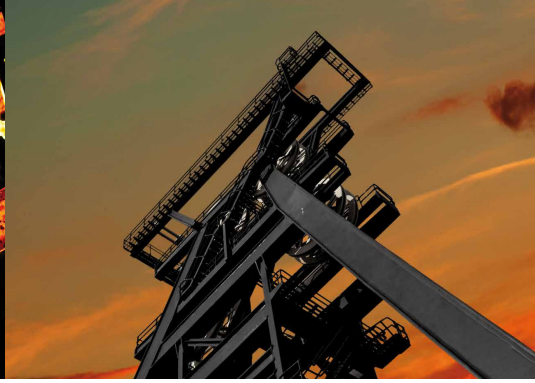
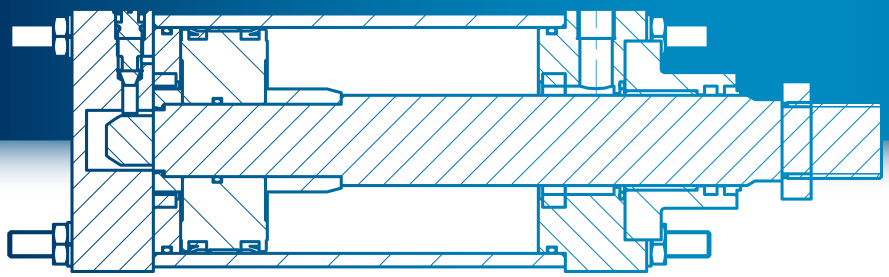




Pneumatic Cylinders

HEAVY DUTY SERIES



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Heavy Duty cylinders

30-35 Series

Ø 50 ... 300 mm
Double Acting

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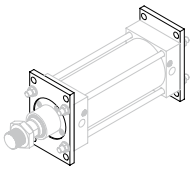
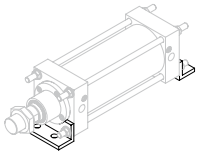
Fixing elements

Flange



Bracket



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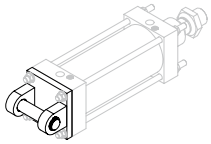
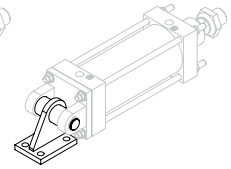
Female Hinge



Rear 90° Hinge



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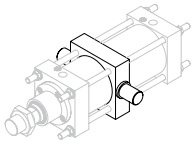
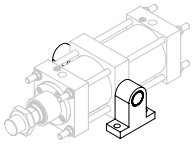
Intermediate Hinge



Intermediate Hinge Bearing



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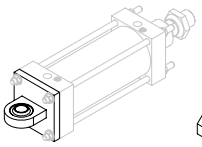
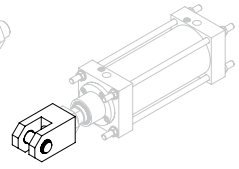
Rear Hinge with Ball Joint



Yoke with Pivot



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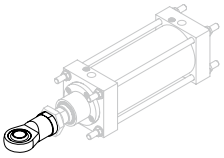
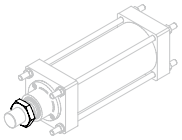
Ball Joint



Locknut



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Technical information

Fluid

AirControl cylinders are designed to work with non-lubricated air, which means that the cylinder components are lubricated in order to guarantee a correct operation. If you decide to use lubricated air, it's important that the use is continuous, since this lubrication removes the one applied in the assembly phase.

Strokes

All strokes available upon request.

Parameters

Bore: inside diameter of the cylinder liner (mm)
Stroke: working travel (mm)
Working pressure: (bar)
Working temperature: (ºC)
Travel speed: (m/s)
Damping force: (Nm)
Air consumption: (nl/min)
Theoretical force: (N)

Installation recommendations

All of our cylinders are tested before delivering them to our customers. We recommend not to take off the plastic plugs that protect the air inlet until the tubing is connected.

In all delivered cylinders, the level of cushioning is adjusted to an intermediate position. However, and depending on the working load, it could be necessary to make an additional readjustment. If a higher level of cushioning is required, turn the bolt clockwise. If less cushioning is needed, turn it the other way around.

Compressed air must be clean. Therefore, it is necessary to install an air filter that eliminates both dust particles of a size of more than 5 microns and water condensation. Although our cylinders are perfectly capable of oil-less working, we recommend lubricating the compressed air, because it increases the seals' life. The lubricator must be connected to the supply line, as close as possible to the valve. Use a petroleum-based mineral oil with a compressed viscosity between 2 and 2,5 Engler at 50ºC with an aniline point above 85ºC.

In order to avoid cylinder working pressure variations and save in air consumption, it is recommended to place a pressure regulator between the filter and lubricator.

Air consumption calculation

Bore (mm)	Air pressure (bar)								
	2	3	4	5	6	7	8	9	10
50	0,060	0,079	0,099	0,118	0,138	0,158	0,177	0,197	0,217
63	0,095	0,126	0,157	0,188	0,219	0,250	0,282	0,313	0,344
80	0,152	0,203	0,253	0,303	0,354	0,404	0,454	0,504	0,555
100	0,238	0,317	0,395	0,474	0,552	0,631	0,709	0,788	0,867
125	0,372	0,495	0,618	0,740	0,863	0,986	1,109	1,231	1,354
160	0,610	0,811	1,012	1,213	1,414	1,615	1,816	2,017	2,218
200	0,953	1,267	1,581	1,895	2,209	2,524	2,838	3,152	3,466
250	1,489	1,980	2,471	2,961	3,452	3,943	4,434	4,925	5,416
300	2,144	2,851	3,558	4,264	4,971	5,678	6,385	7,092	7,799

Air consumption in thrust/traction in Nl/min by cms. of stroke, according to the pressure (bar) at 20°C.

Force calculation

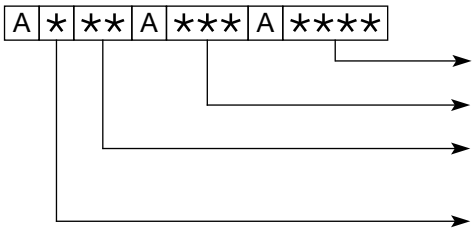
Bore	Available area	Force (kg) at pressure (bar)									
		cm^2	2	3	4	5	6	7	8	9	10
50	Thrust	20	39	58	77	96	116	135	154	173	193
	Traction	16	32	48	63	79	95	111	127	143	158
63	Thrust	31	61	92	122	153	184	214	245	275	306
	Traction	25	50	75	100	125	150	175	200	225	250
80	Thrust	50	99	148	197	247	296	345	395	444	493
	Traction	42	84	127	169	211	253	296	338	380	422
100	Thrust	79	154	231	308	385	462	539	616	693	771
	Traction	66	132	198	264	330	396	462	528	594	660
125	Thrust	123	241	361	482	602	722	843	963	1084	1204
	Traction	103	206	309	412	515	619	722	825	928	1031
160	Thrust	201	395	592	789	986	1184	1381	1578	1775	1972
	Traction	173	346	518	691	964	1037	1210	1382	1555	1728
200	Thrust	314	616	925	1233	1541	1849	2157	2466	2774	3082
	Traction	286	572	858	1144	1429	1715	2001	2287	2573	2859
250	Thrust	491	963	1445	1926	2408	2889	3571	3852	4334	4816
	Traction	447	893	1340	1787	2234	2680	3127	3574	4020	4467
300	Thrust	707	1357	2080	2774	3467	4161	4854	5547	6241	6934
	Traction	663	1325	1988	2651	3313	3976	4639	5301	5964	6627

Dynamic forces of thrust/traction in kg.

30 and 35 Series
Heavy Duty cylinders

The pneumatic cylinders of the 30 and 35 series are designed to work in extreme conditions and hostile environments for a long time. They are available with or without tie rods and in bores from 50 to 300 mm. All these cylinders are suitable for installations that need a high number of cycles. Their main application areas can be found in the iron and steel industry, glass industry, paper industry, mining, machinery for public works and automotive industry.

Codification



Stroke (mm)	
Internal bore (mm)	
30	With tie rods
35	Without tie rods
0	Standard cylinder
A	High temperature (HT)
F	Bellows
K	Stainless steel piston rod
L	Stainless steel piston rod + HT seals

Strokes

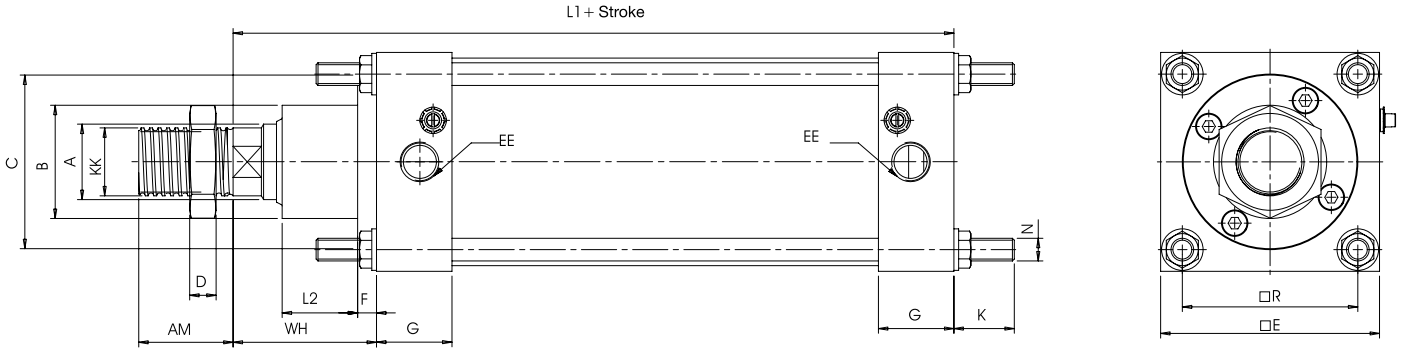
All strokes available according to the customer´s needs.

Technical specifications

Cylinder heads	**Rolled steel**
Piston rod	**Chrome-plated and rolled ground steel (stainless steel on request)**
Piston	**Rolled steel**
Tie rods	**Rolled steel**
Liner	**Chrome-plated and honed ST-52 rolled steel**
Seals	**NBR (Viton on request)**
Cushioning	**Adjustable at both ends**
Environmental temperature range	**-30ºC → +80ºC**
Fluid temperature range	**0ºC → +40ºC (-30ºC → +200ºC with Viton seals)**
Lubrication	**Not required**
Fluid	**Filtered air**
Maximum operating pressure	**10 bar**
Forces	**Technical information page**
Air consumption	**Technical information page**

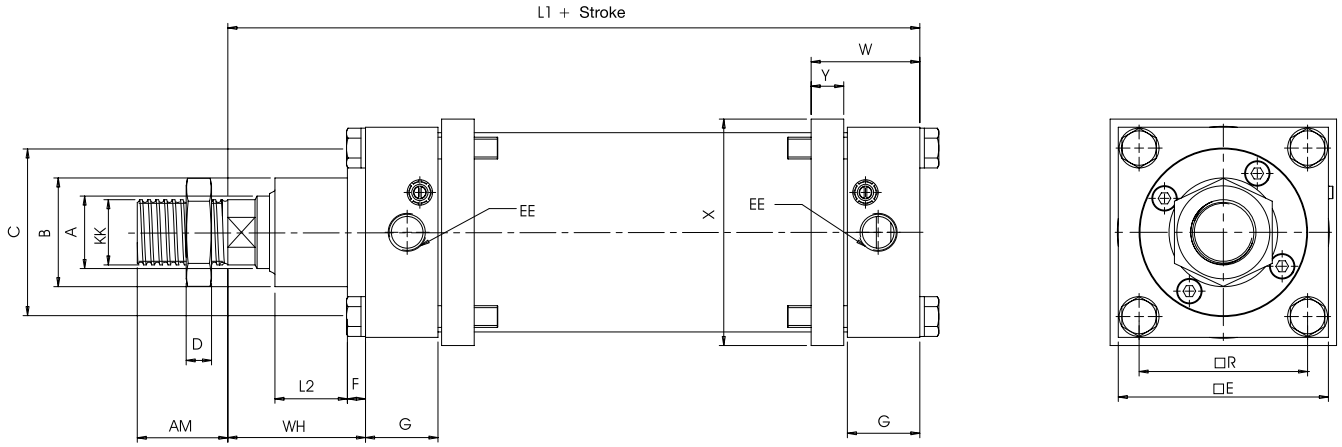
30 and 35 Series
Heavy Duty cylinders

30 Series

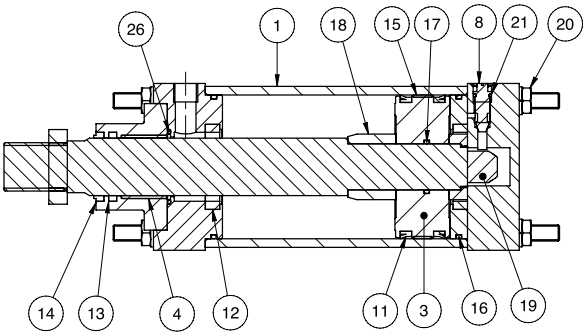


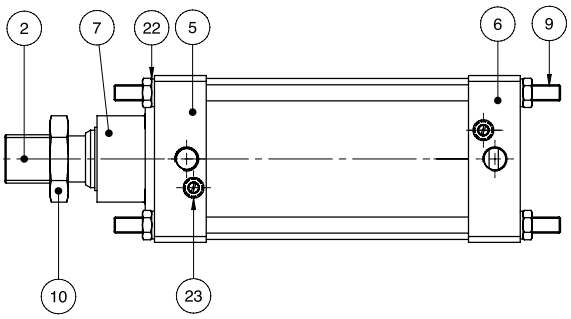
Ø	A	B	C	D	E	EE	F	G	K	L1	L2	N	R	W	WH	X	Y	AM	KK
50	22	45	0	9	70	1/4”	0	33	23	179 ±1	35	M.8	53	46,5	55	70	12	35	M.20X2,5
63	28	52	0	10	80	3/8”	0	33	23	187 ±1,2	41	M.10	62	46,5	63	80	12	45	M.24X3
80	32	52	0	12	95	3/8”	0	33	24	199 ±1,2	45	M.10	76	49	67	102	15	45	M.27X3
100	40	60	92	14	116	1/2”	10	40	32	232 ±1,2	40	M.12	93	60	76	125	18	50	M.36X4
125	50	75	110	16	145	1/2”	8	45	35	243 ±1,2	42	M.14	115	67	75	155	20	55	M.42X4,5
160	60	85	125	20	182	3/4”	8	45	37	264 ±1,7	60	M.16	145	72	93	198	25	75	M.52X3
200	60	85	125	20	225	3/4”	10	56	46	320 ±1,7	60	M.20	180	88	114	245	30	75	M.52X3
250	75	105	150	28	275	1”	10	60	48	359 ±2	63	M.24	220	97	125	300	35	100	M.68X4
300	75	105	150	28	325	1”	10	60	48	359 ±2	63	M.27	260	97	125	355	35	100	M.68X4

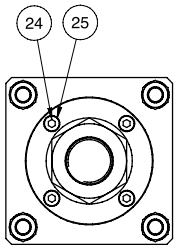
35 Series



30 and 35 Series
Heavy Duty cylinders







Num.	Description	Units	Material
30 Series			
1	Cylinder barrel	1	ST-52 steel
2	Piston rod	1	Chrome plated F-1140 steel
3	Piston	1	F-1140 steel
4	Guide bush	1	Permaglide
5	Front cover	1	ST-52 steel
6	Rear cover	1	ST-52 steel
7	Guide bracket	1	F-1140 steel
8	Regulator	2	Brass
9	Tie rod	4	F-2112 steel
10	Lock nut	1	Bichromated F-1120 steel
*11	Collar	2	NBR
*12	Cushioning seal	2	NBR
*13	Collar	1	NBR
*14	Piston rod scraper	1	NBR
*15	Slipping segment	1	Graphite Teflon
*16	O-ring	2	NBR
*17	O-ring	1	NBR
18	Front cushioning bush	1	F-1140 steel
19	Rear cushioning bush	1	F-1140 steel
20	Bichromated locknut	8	Bichromated F-1120 steel
*21	O-ring	2	NBR
22	Washer	8	Phosphated steel
23	Lock washer	2	Phosphated steel
24	Allen screw	4	Black-oxide steel
25	Washer	4	Black-oxide steel
*26	O-ring	1	NBR
35 Series			
On request			

* Spare part kit

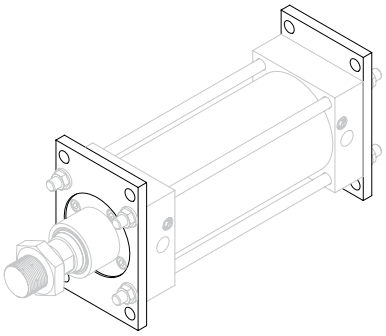
Spare kit	Bore								
	50	63	80	100	125	160	200	250	300
Standard NBR	30KR050	30KR063	30KR080	30KR100	30KR125	30KR160	30KR200	30KR250	30KR300
High temperature (HT)	A 30KR050	A 30KR063	A 30KR080	A 30KR100	A 30KR125	A 30KR160	A 30KR200	A 30KR250	A 30KR300

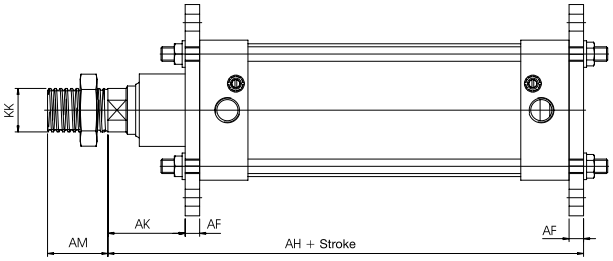
30 and 35 Series

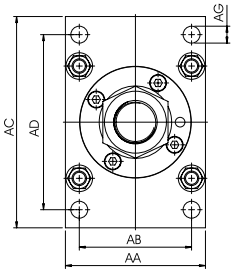
Heavy Duty cylinders

Fixing elements

Flange







Ø	AA	AB	AC	AD	AF	AG	AH	AK	AM	KK
50	70	53 ±0,3	105	85 ±0,3	8	10	187 ±1,3	47 ±1,8	35	M.20X2,5
63	80	56 ±0,3	115	95 ±0,3	10	10	197 ±1,5	53 ±1,8	45	M.24X3
80	95	68 ±0,3	135	112 ±0,3	10	12	209 ±1,5	57 ±1,8	45	M.27X3
100	116	93 ±0,3	175	145 ±0,3	12	14	244 ±1,5	64 ±1,8	50	M.36X4
125	145	115 ±0,4	205	170 ±0,4	15	16	256 ±1,5	60 ±1,8	55	M.42X4,5
160	182	130 ±0,4	240	205 ±0,4	18	18	280 ±1,8	75 ±2,2	75	M.52X3
200	225	170 ±0,5	310	265 ±0,5	22	22	338 ±1,8	92 ±2,2	75	M.52X3
250	275	210 ±1	390	330 ±1	28	26	385 ±2	97 ±2,5	100	M.68X4
300	325	245 ±1	440	385 ±1	33	28	390 ±2	92 ±2,5	100	M.68X4

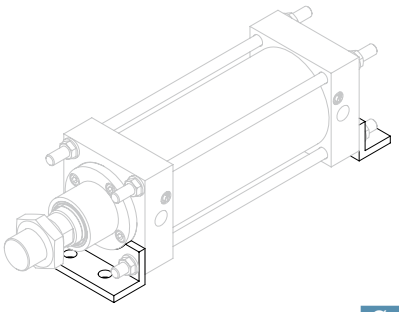
Front flange

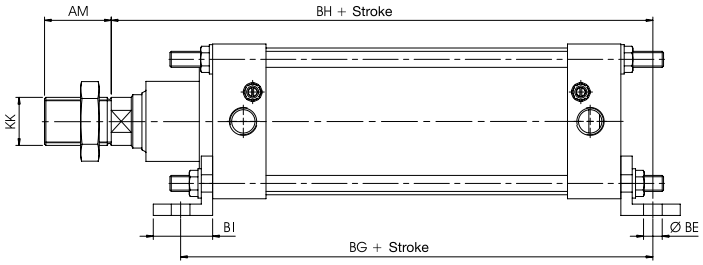
COD.	Ø
B30.AAD.05	50
B30.AAD.06	63
B30.AAD.08	80
B30.AAD.10	100
B30.AAD.12	125
B30.AAD.16	160
B30.AAD.20	200
B30.AAD.25	250
B30.AAD.30	300

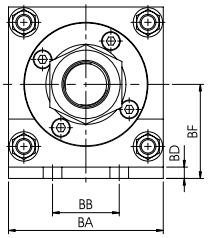
Rear flange

COD.	Ø
B30.AB.05	50
B30.AB.06	63
B30.AB.08	80
B30.AB.10	100
B30.AB.12	125
B30.AB.16	160
B30.AB.20	200
B30.AB.25	250
B30.AB.30	300

Bracket





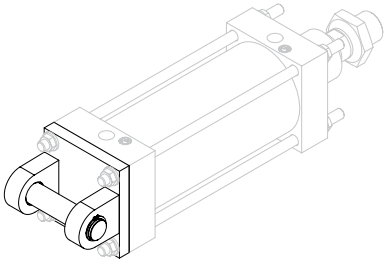


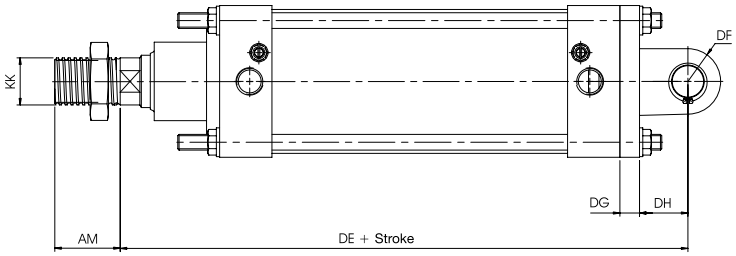
Ø	BA	BB	BD	BE	BF	BG	BH	BI	AM	KK
50	70	30 ±0,3	5,5	9	42,5 ±0,5	160 ±1	197 ±1	34,5	35	M.20X2,5
63	80	30 ±0,3	5,5	11	50 ±0,5	166 ±1	208 ±1	34,5	45	M.24X3
80	95	30 ±0,3	5,5	11	54,5 ±0,6	166 ±2	216 ±2	34,5	45	M.27X3
100	116	50 ±0,3	8,5	14	70,5 ±0,6	204 ±2	256 ±2	44,5	50	M.36X4
125	145	57 ±0,4	8,5	17	85,5 ±0,6	226 ±2	270 ±2	49,5	55	M.42X4,5
160	182	70 ±0,4	10,5	17	102,5 ±0,6	235 ±2	294 ±2	64	75	M.52X3
200	225	80 ±0,5	10,5	22	125 ±0,6	286 ±2	356 ±2	64	75	M.52X3
250	275	115 ±1	14,5	26	160 ±1	394 ±2	437 ±2	119,5	100	M.68X4
300	325	140 ±1	14,5	28	185 ±1	394 ±2,5	437 ±2,5	119,5	100	M.68X4

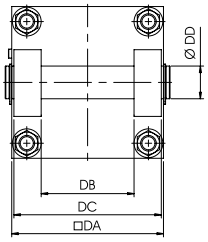
COD.	Ø
B30.AB.05	50
B30.AB.06	63
B30.AB.08	80
B30.AB.10	100
B30.AB.12	125
B30.AB.16	160
B30.AB.20	200
B30.AB.25	250
B30.AB.30	300

30 and 35 Series
Heavy Duty cylinders
Fixing elements

Female Hinge



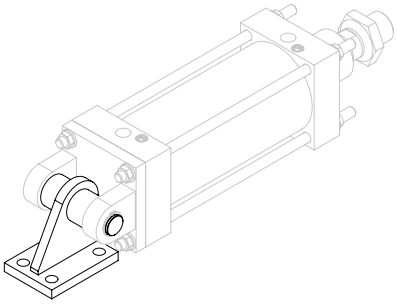


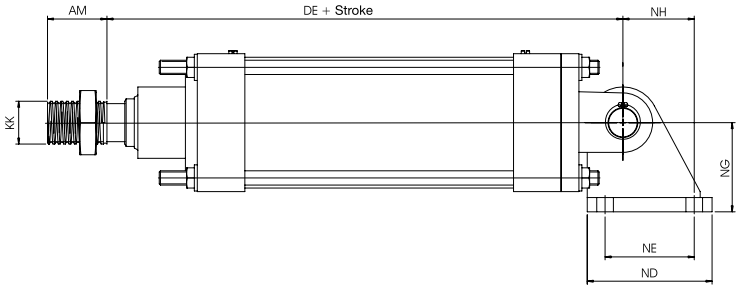


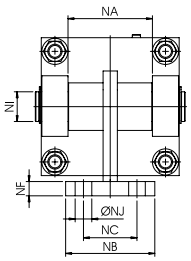
Ø	DA	DB	DC	DD H9	DE	DF	DG	DH	AM	KK
50	70	$35^{+0,6}_{-0}$	$65^{+0,6}_{-0}$	15	$212^{\pm1,3}$	15	8	25	35	M.20X2,5
63	80	$45^{+0,6}_{-0}$	$75^{+0,6}_{-0}$	16	$220^{\pm1,5}$	18	8	25	45	M.24X3
80	95	$45^{+0,6}_{-0}$	$85^{+0,6}_{-0}$	20	$237^{\pm1,5}$	22	10	28	45	M.27X3
100	116	$71^{+0,7}_{-0}$	$115^{+0,7}_{-0}$	25	$284^{\pm1,5}$	25	15	37	50	M.36X4
125	145	$90^{+0,7}_{-0}$	$140^{+0,7}_{-0}$	25	$306^{\pm1,5}$	25	15	50	55	M.42X4,5
160	182	$100^{+0,8}_{-0}$	$160^{+0,8}_{-0}$	30	$334^{\pm1,8}$	35	18	54	75	M.52X3
200	225	$110^{+0,8}_{-0}$	$180^{+0,8}_{-0}$	35	$401^{\pm1,8}$	42	22	63	75	M.52X3
250	275	$110^{+1,2}_{-0}$	$190^{+1,2}_{-0}$	40	$457^{\pm2,5}$	48	28	72	100	M.68X4
300	325	$120^{+1,2}_{-0}$	$210^{+1,2}_{-0}$	50	$467^{\pm2,5}$	56	28	82	100	M.68X4

COD.	Ø
G30.AD.05	50
G30.AD.06	63
G30.AD.08	80
G30.AD.10	100
G30.AD.12	125
G30.AD.16	160
G30.AD.20	200
G30.AD.25	250
G30.AD.30	300

Rear 90° Hinge





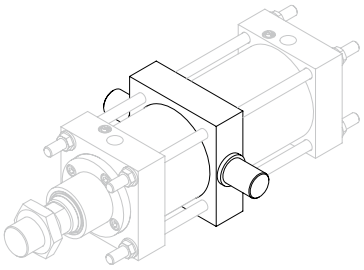


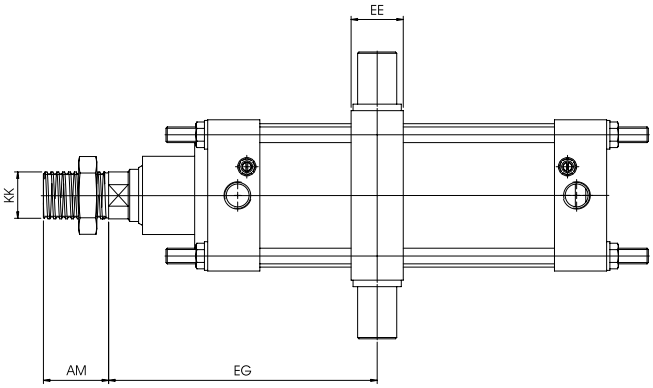
Ø	DE	NA	NB	NC	ND	NE	NF	NG	NH	NI	NJ	AM	KK
50	$212^{\pm1,3}$	34	46	32	60	40	8	40	30	15	9	35	M.20X2,5
63	$220^{\pm1,5}$	43	55	37	70	50	8	50	40	17	11	45	M.24X3
80	$237^{\pm1,5}$	43	55	37	75	55	10	60	43	20	11	45	M.27X3
100	$284^{\pm1,5}$	70	75	45	105	75	12	75	60	25	14	50	M.36X4
125	$306^{\pm1,5}$	89	85	55	110	80	12	85	65	25	14	55	M.42X4,5
160	$334^{\pm1,8}$	98	95	65	115	85	14	100	65	30	17	75	M.52X3
200	$401^{\pm1,8}$	108	110	70	130	90	20	125	68	35	22	75	M.52X3
250	$457^{\pm2,5}$	108	120	76	140	90	20	150	65	40	25	100	M.68X4
300	$467^{\pm2,5}$	118	140	90	160	100	25	180	70	50	28	100	M.68X4

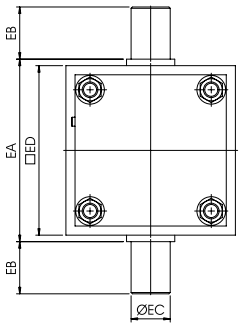
COD.	Ø
B30.AN.05	50
B30.AN.06	63
B30.AN.08	80
B30.AN.10	100
B30.AN.12	125
B30.AN.16	160
B30.AN.20	200
B30.AN.25	250
B30.AN.30	300

30 and 35 Series
Heavy Duty cylinders
Fixing elements

Intermediate Hinge





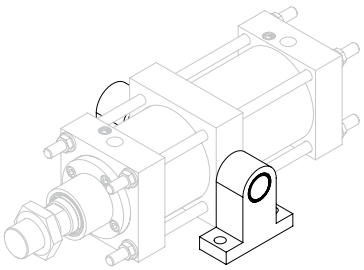


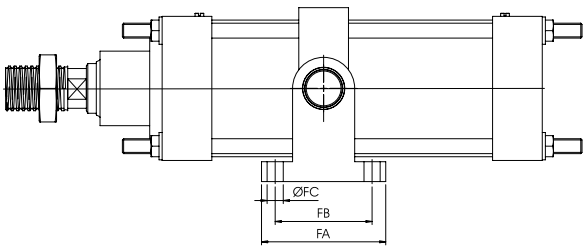
Ø	EA	EB	EC	ED	EE	EG*	AM	KK
50	80 $^{+0}_{-0,4}$	22	18 ^{f8}	72	30		35	M.20X2,5
63	90 $^{+0}_{-0,4}$	30	22 ^{f8}	82	30		45	M.24X3
80	110 $^{+0}_{-0,4}$	35	25 ^{f8}	106	35		45	M.27X3
100	140 $^{+0}_{-0,4}$	40	30 ^{f8}	130	40		50	M.36X4
125	164 $^{+0}_{-0,5}$	50	35 ^{f8}	152	45		55	M.42X4,5
160	194 $^{+0}_{-0,5}$	50	40 ^{f8}	186	55		75	M.52X3
200	250 $^{+0}_{-0,5}$	55	45 ^{f8}	242	55		75	M.52X3
250	325 $^{+0}_{-1,2}$	70	50 ^{f8}	305	65		100	M.68X4
300	375 $^{+0}_{-1,2}$	75	60 ^{f8}	360	75		100	M.68X4

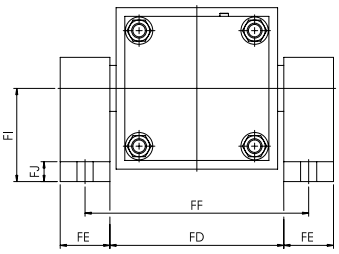
COD.	Ø
B30.AE.05	50
B30.AE.06	63
B30.AE.08	80
B30.AE.10	100
B30.AE.12	125
B30.AE.16	160
B30.AE.20	200
B30.AE.25	250
B30.AE.30	300

* The position of the intermediate hinge, represented by the dimension figure EG, will be given when placing the order.

Intermediate Hinge Bearing





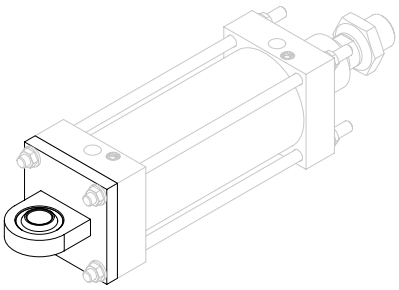


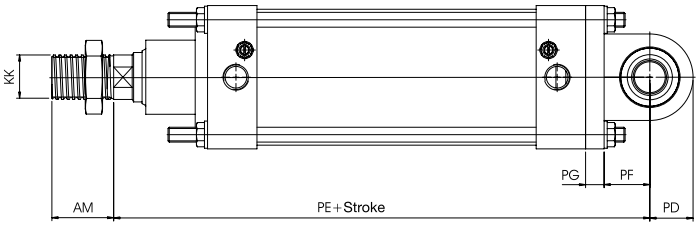
Ø	FA	FB	FC	FD	FE	FF	FI	FJ
50	65	50	9	80 $^{+0}_{-0,4}$	22	102	40	10
63	75	58	11	90 $^{+0}_{-0,4}$	30	120	50	10
80	85	66	11	110 $^{+0}_{-0,4}$	35	145	60	12
100	100	78	13	140 $^{+0}_{-0,4}$	40	180	75	16
125	115	90	15	164 $^{+0}_{-0,5}$	50	214	84	18
160	135	105	17	194 $^{+0}_{-0,5}$	50	244	100	20
200	160	120	21	250 $^{+0}_{-0,5}$	55	305	125	25
250	175	130	25	325 $^{+0}_{-1,2}$	70	395	150	30
300	200	155	28	375 $^{+0}_{-1,2}$	75	450	180	35

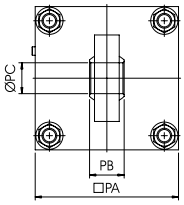
COD.	Ø
G30.AF.05	50
G30.AF.06	63
G30.AF.08	80
G30.AF.10	100
G30.AF.12	125
G30.AF.16	160
G30.AF.20	200
G30.AF.25	250
G30.AF.30	300

30 and 35 Series
Heavy Duty cylinders
Fixing elements

Rear Hinge with Ball Joint



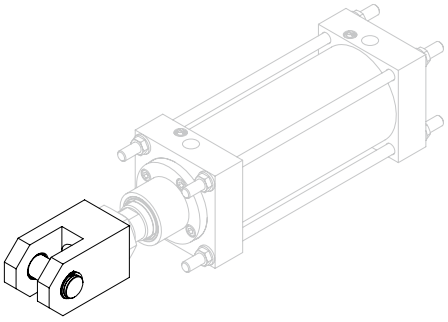


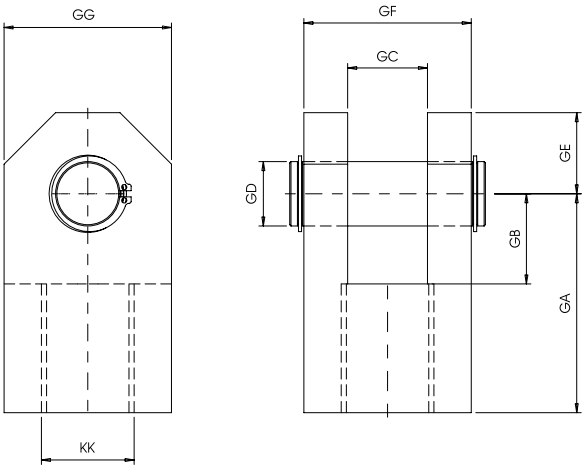


Ø	PA	PB	PC	PD	PE	PF	PG	AM	KK
50	70	16	15	20	212	25	8	35	M.20X2,5
63	80	20	17	24	220	25	8	45	M.24X3
80	95	25	20	28	237	28	10	45	M.27X3
100	116	28	25	35	284	37	15	50	M.36X4
125	145	28	25	35	308	50	15	55	M.42X4,5
160	182	32	30	40	336	54	18	75	M.52X3
200	225	35	35	45	405	63	22	75	M.52X3
250	275	40	40	50	459	72	28	100	M.68X4
300	325	56	50	65	469	82	28	100	M.68X4

COD.	Ø
G30.AP.05	50
G30.AP.06	63
G30.AP.08	80
G30.AP.10	100
G30.AP.12	125
G30.AP.16	160
G30.AP.20	200
G30.AP.25	250
G30.AP.30	300

Yoke with Pivot





Ø	GA	GB	GC	GD H9	GE	GF	GG	KK
50	55	20	16	15	19	35	35	M.20X2,5
63	67	22	18	16	20	40	40	M.24X3
80	70	25	20	20	25	50	50	M.27X3
100	85	35	31	25	31,5	65	65	M.36X4
125	90	40	33	25	36,5	75	75	M.42X4,5
160	105	45	34	30	39	80	80	M.52X3
200	110	50	34	35	41	80	80	M.52X3
250	135	47	42	40	48	100	100	M.68X4
300	145	57	46	50	53	110	110	M.68X4

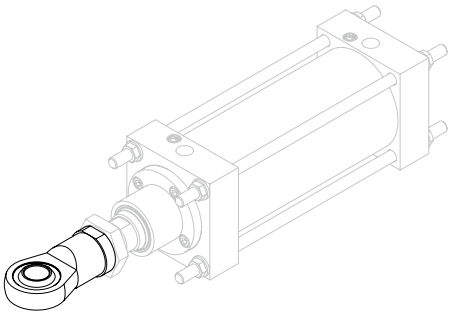
COD.	Ø
G30.AG.05	50
G30.AG.06	63
G30.AG.08	80
G30.AG.10	100
G30.AG.12	125
G30.AG.16	160
G30.AG.20	200
G30.AG.25	250
G30.AG.30	300

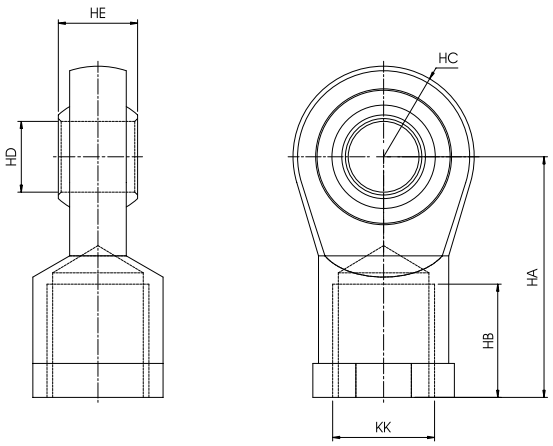
30 and 35 Series

Heavy Duty cylinders

Fixing elements

Ball Joint

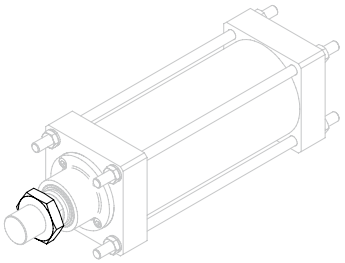


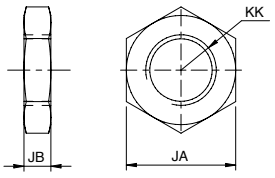


Ø	HA	HB	HC	HD H9	HE	KK
50	55	28	20	15	16	M.20X2,5
63	67	36	24	17	20	M.24X3
80	70	36	28	20	25	M.27X3
100	85	40	32	25	28	M.36X4
125	90	45	35	25	28	M.42X4,5
160	105	56	40	30	32	M.52X3
200	110	56	43	35	35	M.52X3
250	135	72	53	40	40	M.68X4
300	145	72	59	50	56	M.68X4

COD.	Ø
G30.AH.05	50
G30.AH.06	63
G30.AH.08	80
G30.AH.10	100
G30.AH.12	125
G30.AH.16	160
G30.AH.20	200
G30.AH.25	250
G30.AH.30	300

Locknut





Ø	FA	FB	FC
50	30	9	M.20X2,5
63	36	10	M.24X3
80	41	12	M.27X3
100	55	14	M.36X4
125	65	16	M.42X4,5
160	80	20	M.52X3
200	80	20	M.52X3
250	100	27	M.68X4
300	100	27	M.68X4

COD.	Ø
300510	50
300610	63
300810	80
301010	100
301210	125
301610	160
301610	200
302510	250
302510	300

Other pneumatic cylinders we have

ISO 6431 - ISO 15552 Cylinders

Profile cylinders

A705 Series

ISO 15552 (ISO 6431) · VDMA 24562

Ø 32 ... 100mm
Double acting

Tie rod cylinders

A701 Series

ISO 15552 (ISO 6431) · VDMA 24562

Ø 32 ... 320 mm
Double acting

AQ70 Series

All steel

ISO 15552 (ISO 6431) · VDMA 24562

Ø 32 ... 320 mm
Double acting

AT70 Series

Stainless steel

ISO 15552 (ISO 6431) · VDMA 24562

Ø 32 ... 200 mm
Double acting

ISO 6432 Cylinders

A83 Series

ISO 6432

Ø 8 ... 25 mm
Single or Double acting

AT83 Series

Stainless steel

ISO 6432

Ø 16 ... 25 mm
Single or Double acting

CNOMO Cylinders

MS Series

Ø 25 ... 300 mm
Double acting

MS Series

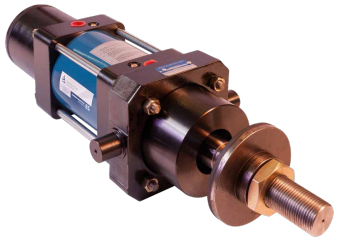
Ø 25 ... 300 mm
Double acting

MS Series

Ø 25 ... 300 mm
Double acting

Special Cylinders

Cylinders designed and manufactured according to customer's requirements



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