



KSY - KSYM Series
Pneumatic Scotch Yoke Actuators



Quifer Actuators, sl



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KSY / KSYM SERIES

General Description

QUIFER pneumatic scotch yoke actuators are in the market for more than 15 years. These actuators are popular for their high resistance and durability and, in consequence, there is a reduction of the maintenance cost in the production lines. For that reason, our actuators are used in the most demanding markets and environments like oil and gas, offshore platforms or vessels.

Actuators are completely designed, machined and tested in our factory of Spain. Raw material origin is from European Suppliers.

Stock of the key pieces that allow us to give quick delivery time to our customers.

The linking surfaces of the actuators are designed according to ISO 5211 and VDI/VDE 3845.

Design of the actuator is constructed according to ISO9001:2015, IEC 61508:2010, LOM 10ATEX6032 and European Pressure Equipments Directive 97/23/EC 3.10

Standard Actuator Scope

	Double Acting	Spring Return
Torques:	100.000 Nm	50.000 Nm
Working pressure:	1 to 10 bar	2 to 10 bar
Air supply:	Air or non corrosive gas	
Working temperature:	From -20 to +80°C	
Rotation:	90 degrees Anticlockwise in opening	
Adjustments:	+/- 5°C to open +/- 5°C to close	
Lubrication:	Actuators lubricated for life	

The actuators are PED, SIL level 3, ATEX and GOST certified and manufactured under the ISO9001:2015 rules with the continuous improvement policy.

Quifer Actuators

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Technical Data

- ✓ Linking surfaces according ISO 5211 and VDI/VDE 3845
- ✓ All components have high resistance to corrosion
- ✓ All models have a double opening and closing regulation from the outside
- ✓ Multiple combination spring cartridges and air cylinders that allow a wide range of torques for one model
- ✓ All springs have a preloader, increasing safety
- ✓ All models are easily convertible from spring return to double acting and vice versa
- ✓ Spring cartridge welded to ensure safety when disassembling
- ✓ Totally enclosed weather proof central body
- ✓ Modular construction allow the pneumatic cylinder and spring cartridge to be assembled to either both sides of the central body

Options

- ✓ Low temperature versions up to -50°C
- ✓ High temperature up to +180°C
- ✓ Stainless Steel air cylinder
- ✓ Fast closing time actuators
- ✓ Actuators driven with Natural Gas, Sour Gas, Oxygen, etc, etc...
- ✓ Adjustable travel stops from 0° to 90°
- ✓ Actuators for SDV valves
- ✓ Canted version for butterfly valves and dampers available
- ✓ Special bolting and nuts
- ✓ Customized actuators

Advantages

- ✓ Inner cylinder has been completely honey treated to obtain 0,3 – 0,4 mic. Rugosity
- ✓ Hard chromed cylinder as standard
- ✓ Piston with larger sliding surface to increase concentricity
- ✓ All bars made of chromed carbon steel
- ✓ All bushings made of bronze
- ✓ Bank of grease in all sliding parts of the actuator
- ✓ Nitrided yoke to increase life and sliding properties
- ✓ Oversided slide and slide block mechanism
- ✓ Special locking device between sliding block and bar
- ✓ 2 Springs for large sizes to avoid buckling
- ✓ Welded spring cartridge

Manual Override KSY 400 to 10.000 | KSYM 400 to 10.000

In case of air failure, we have the option to open or close the valve manually because actuators are easily fitted on detachable gearboxes as manual override.

Available options include enclosed Jackscrew in both gear reducer and declutchable versions, as well as different hydraulic override solutions.

This sealing system allows to be fitted in corrosive environments and they are supplied with grease for their normal working life.

KSYM 100
(KSY 100: RKE-75)



KSYM 400
(KSY 400: RKE-125)



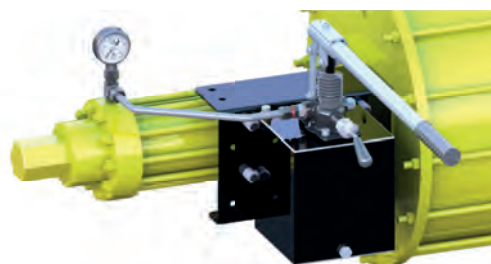
KSY /KSYM 900



KSY /KSYM 1600



Hydraulic override KSY 400 to 10.000 /KSYM 400 to 10.000



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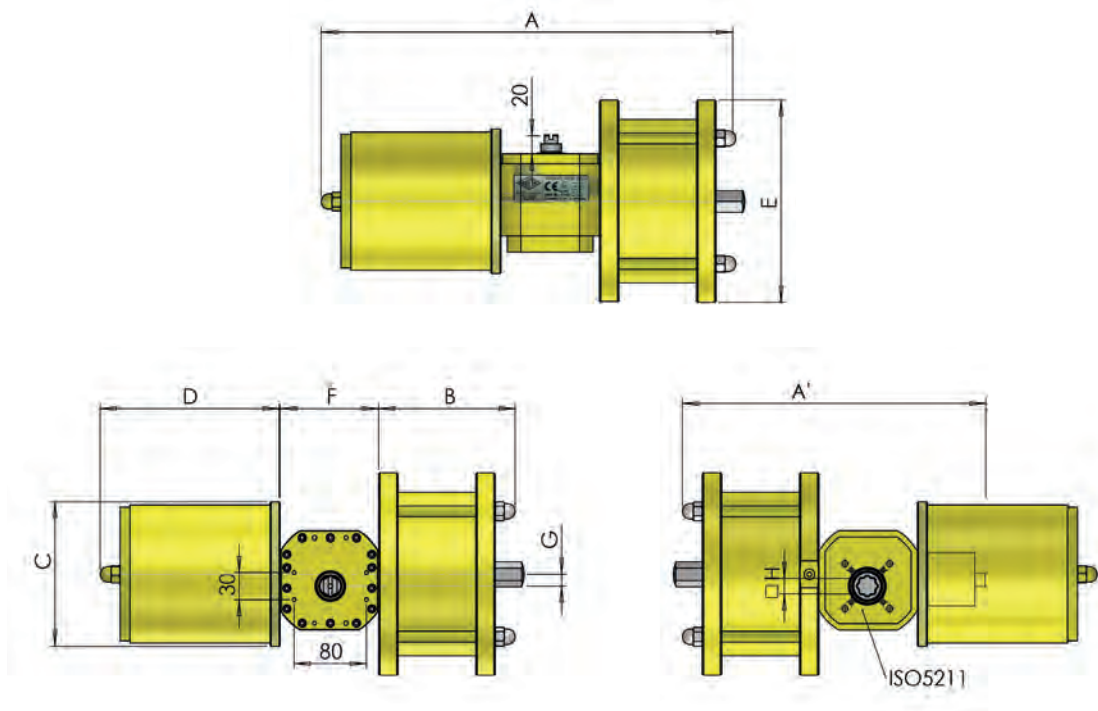
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Dimensions KSY | KSYM

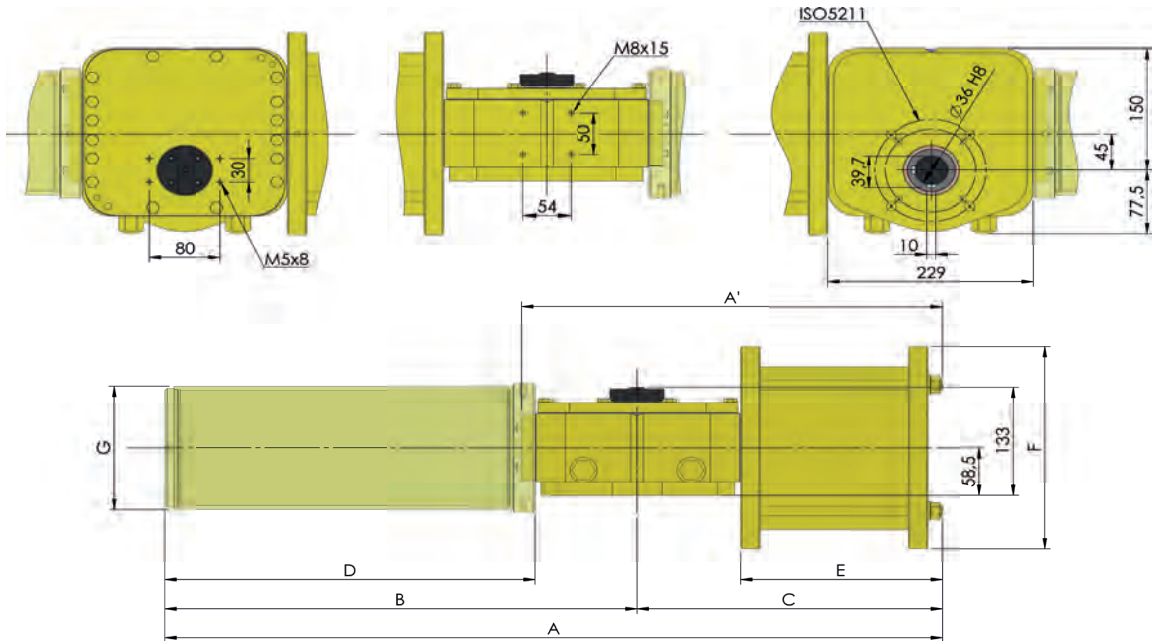
Dimensions KSY|KSYM 025-050



	A'	A	B	C	D	E	F	G	H	AIR CONN	ISO 5211
KSY-025-140	376	-	155	159	-	205	119	13	17	1/4 NPT	F05/F07
KSY-025-160	376	-	155	159	-	223	119	13	17	1/4 NPT	F05/F07
KSY-025-180	376	-	155	159	-	248	119	13	17	1/4 NPT	F05/F07
KSY-025-200	376	-	155	159	-	268	119	13	17	1/4 NPT	F05/F07
KSYM-025-140-005	-	446	155	159	200	205	119	13	17	1/4 NPT	F05/F07
KSYM-025-160-005	-	446	155	159	200	223	119	13	17	1/4 NPT	F05/F07
KSYM-025-180-005	-	446	155	159	200	248	119	13	17	1/4 NPT	F05/F07
KSYM-025-180-010	-	446	155	159	230	248	119	13	17	1/4 NPT	F05/F07
KSYM-025-200-010	-	446	155	159	230	268	119	13	17	1/4 NPT	F05/F07
KSYM-025-220-010	-	446	155	159	230	288	119	13	17	1/4 NPT	F05/F07
KSY-050-140	486	-	190	159	-	205	160	26	22	1/4 NPT	F07/F10
KSY-050-160	486	-	190	159	-	223	160	26	22	1/4 NPT	F07/F10
KSY-050-180	486	-	190	159	-	248	160	26	22	1/4 NPT	F07/F10
KSY-050-200	486	-	190	159	-	268	160	26	22	1/4 NPT	F07/F10
KSYM-050-180-027	-	680	190	159	310	248	160	26	22	1/4 NPT	F07/F10
KSYM-050-200-027	-	680	190	159	310	268	160	26	22	1/4 NPT	F07/F10
KSYM-050-220-027	-	680	190	159	310	288	160	26	22	1/4 NPT	F07/F10

NOTE: All dimensions are in mm | All dimensions and weigh are without brackets | Weight is in Kg | Drawing is not scaled | Air volume is in litres
 ALTER *: Alternative ISO5211 can be mechanized under request | AIR CONN: Air connection can be codified under request

Dimensions KSY|KSYM 100

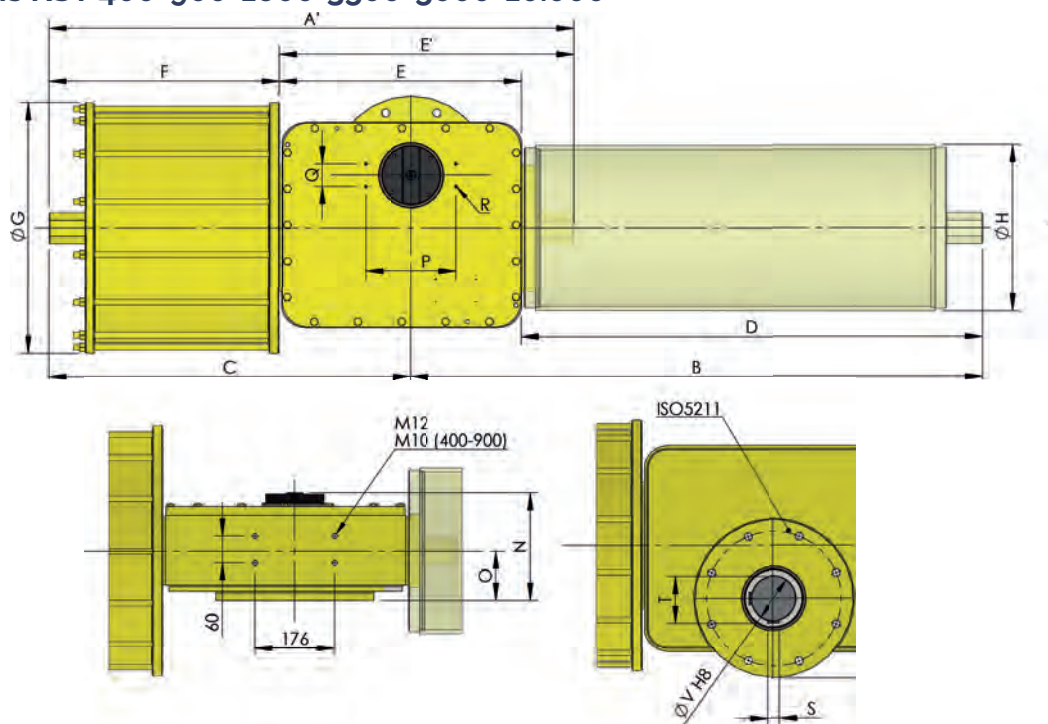


	A-A'	B	C	D	E	F	G	ISO 5211	Air connection	Weight	Air volume (Lt)
KSY-100-160	469	-	339	-	225	223	-	F10-F12	1/4"NPT	57	1,4
KSY-100-180	469	-	339	-	225	248	-	F10-F12	1/4"NPT	61	2,6
KSY-100-200	469	-	339	-	225	268	-	F10-F12	1/4"NPT	83	3,3
KSY-100-220	469	-	339	-	225	288	194	F10-F12	1/4"NPT	86	5,6
KSY-100-250	469	-	339	-	225	328	194	F10-F12	1/2"NPT	92	3,3
KSYM-100-180-46	867	527	339	413	225	248	152	F10-F12	1/4"NPT	80	2,6
KSYM-100-200-46	867	527	339	413	225	268	152	F10-F12	1/4"NPT	84	3,3
KSYM-100-220-46	867	527	339	413	225	288	152	F10-F12	1/4"NPT	105	5,6
KSYM-100-220-78	1004	665	339	522	225	288	229	F10-F12	1/4"NPT	111	2,6
KSYM-100-250-78	1004	665	339	552	225	328	229	F10-F12	1/2"NPT	117	3,3
KSYM-100-280-78	1004	665	339	552	225	368	229	F10-F12	1/2"NPT	133	5,6

All dimensions are in mm | All dimensions and weigh are without brackets | Weight is in Kg | Drawing is not scaled



Dimensions KSY 400-900-1600-3500-5000-10.000



	AA'	B	C	D	EE'	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	V	ISO 5211	ALTER*	AIR CONN.*	WEIGHT	AIR VOL.
KSY-400-200	829	-	550	-	475	354	272	-	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	112	4,4
KSY-400-235	829	-	550	-	475	354	301	-	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	125	6,2
KSY-400-280	829	-	550	-	475	354	354	-	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	140	8,7
KSY-400-335	829	-	550	-	475	354	403	-	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	195	12,5
KSY-400-385	829	-	550	-	475	354	453	-	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1" NPT	225	16,5
KSY-900-235	934,5	-	627,5	-	535	399,5	301	-	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	135	7,8
KSY-900-280	934,5	-	627,5	-	535	399,5	354	-	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	153	11,2
KSY-900-335	934,5	-	627,5	-	535	399,5	403	-	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	205	16,2
KSY-900-385	934,5	-	627,5	-	535	399,5	453	-	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	238	21,2
KSY-900-435	934,5	-	627,5	-	535	399,5	506	-	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	263	27
KSY-1600-300	1161,5	-	801,5	-	652	509,5	370	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1/2" NPT	270	16,7
KSY-1600-335	1161,5	-	801,5	-	652	509,5	403	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1/2" NPT	292	20,9
KSY-1600-385	1161,5	-	801,5	-	652	509,5	453	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	327	27,5
KSY-1600-435	1161,5	-	801,5	-	652	509,5	506	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	386	35,1
KSY-1600-485	1161,5	-	801,5	-	652	509,5	555	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	429	43,7
KSY-1600-535	1161,5	-	801,5	-	652	509,5	606	-	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	479	53,1
KSY-3500-335	1243,5	-	860,5	-	700	543,5	403	-	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1/2" NPT	296	25
KSY-3500-385	1243,5	-	860,5	-	700	543,5	453	-	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	330	33
KSY-3500-435	1243,5	-	860,5	-	700	543,5	506	-	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	392	42
KSY-3500-485	1243,5	-	860,5	-	700	543,5	555	-	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	445	53,2
KSY-3500-535	1243,5	-	860,5	-	700	543,5	606	-	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	493	63,6
KSY-5000-435	1514	-	1035	-	874	640	506	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	722	50,1
KSY-5000-485	1514	-	1035	-	874	640	555	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	757	63
KSY-5000-535	1514	-	1035	-	874	640	606	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	823	76,6
KSY-5000-585	1514	-	1035	-	874	640	658	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	886	91,6
KSY-5000-635	1514	-	1035	-	874	640	706	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	936	108
KSY-5000-685	1514	-	1035	-	874	640	757	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	987	125
KSY-5000-735	1514	-	1035	-	874	640	810	-	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1039	144,6
KSY-10000-685	1953	-	1409	-	1072	881	762	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1582	165,8
KSY-10000-735	1953	-	1409	-	1072	881	812	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1643	190,8
KSY-10000-785	1953	-	1409	-	1072	881	862	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1720	217,7
KSY-10000-835	1953	-	1409	-	1072	881	912	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1801	246,3
KSY-10000-885	1953	-	1409	-	1072	881	962	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1893	276,7

NOTE: All dimensions are in mm | All dimensions and weigh are without brackets | Weight is in Kg | Drawing is not scaled | Air volume is in litres

ALTER *: Alternative ISO5211 can be mechanized under request | AIR CONN: Air connection can be codified under request

Dimensions KSY 400-900-1600-3500.5000-10.000

	AA'	B	C	D	EE'	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	V	ISO 5211	AL-TER.*	AIR CONN.*	WEIGHT	AIR VOL.
KSY-10000-935	1953	-	1409	-	1072	881	1012	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	1991	308,8
KSY-10000-985	1953	-	1409	-	1072	881	1062	-	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2093	342,7

NOTE: All dimensions are in mm | All dimensions and weigh are without brackets | Weight is in Kg | Drawing is not scaled | Air volume is in litres
ALTER *: Alternative ISO5211 can be mechanized under request
AIR CONN: Air connection can be codifi ed under request

Dimensions KSYM 400-900-1600-3500-5000-10.000

	AA'	B	C	D	EE'	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	V	ISO 5211	AL-TER.*	AIR CONN.*	WEIGHT	AIR VOL.
KSYM-400-235-110	1369	819	550	650	365	354	301	267	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	211	6,2
KSYM-400-280-110	1369	819	550	650	365	354	354	267	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	226	8,7
KSYM-400-335-110	1369	819	550	650	365	354	403	267	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	281	12,5
KSYM-400-235-160	1400	850	550	681	365	354	301	324	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	231	6,2
KSYM-400-280-160	1400	850	550	681	365	354	354	324	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	246	8,7
KSYM-400-335-160	1400	850	550	681	365	354	403	324	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	301	12,5
KSYM-400-385-160	1400	850	550	681	365	354	453	324	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1" NPT	331	16,5
KSYM-400-280-220	1417	867	550	698	365	354	354	305	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	289	8,7
KSYM-400-335-220	1417	867	550	698	365	354	403	305	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1/2" NPT	344	12,5
KSYM-400-385-220	1417	867	550	698	365	354	453	305	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1" NPT	374	16,5
KSYM-400-435-220	1417	867	550	698	365	354	506	305	348	175	173	70	189,5	87	130	30	M5	18	64,3	60	F16	-	1" NPT	389	21
KSYM-900-235-140	1589,5	962	627,5	770	420	399,5	301	267	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	237	7,8
KSYM-900-280-140	1589,5	962	627,5	770	420	399,5	354	267	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	255	11,2
KSYM-900-335-140	1589,5	962	627,5	770	420	399,5	403	267	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	307	16,2
KSYM-900-235-200	1544,5	917	627,5	725	420	399,5	301	305	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	246	7,8
KSYM-900-280-200	1544,5	917	627,5	725	420	399,5	354	305	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	264	11,2
KSYM-900-335-200	1544,5	917	627,5	725	420	399,5	403	305	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	316	16,2
KSYM-900-385-200	1544,5	917	627,5	725	420	399,5	453	305	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	349	21,2
KSYM-900-435-200	1544,5	917	627,5	725	420	399,5	506	305	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	402	27
KSYM-900-280-290	1632,5	1005	627,5	813	420	399,5	354	324	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	331	11,2
KSYM-900-335-290	1632,5	1005	627,5	813	420	399,5	403	324	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	383	16,2
KSYM-900-385-290	1632,5	1005	627,5	813	420	399,5	453	324	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	416	21,2
KSYM-900-435-290	1632,5	1005	627,5	813	420	399,5	506	324	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	450	27
KSYM-900-485-290	1632,5	1005	627,5	813	420	399,5	555	324	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	488	33,6
KSYM-900-335-390	1612,5	985	627,5	793	420	399,5	403	368	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1/2" NPT	383	16,2
KSYM-900-385-390	1612,5	985	627,5	793	420	399,5	453	368	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	416	21,2
KSYM-900-435-390	1612,5	985	627,5	793	420	399,5	506	368	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	460	27
KSYM-900-485-390	1612,5	985	627,5	793	420	399,5	555	368	434	240	194	90	198,5	91	130	30	M5	20	76,7	72	F25	-	1" NPT	509	33,6
KSYM-1600-335-450	2072,5	1271	801,5	1026	537	509,5	403	368	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1/2" NPT	599	20,9
KSYM-1600-385-450	2072,5	1271	801,5	1026	537	509,5	453	368	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	634	27,5
KSYM-1600-435-450	2072,5	1271	801,5	1026	537	509,5	506	368	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	693	35,1
KSYM-1600-485-450	2072,5	1271	801,5	1026	537	509,5	555	368	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	736	43,7
KSYM-1600-535-450	2072,5	1271	801,5	1026	537	509,5	606	368	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	786	53,1
KSYM-1600-335-510	1976,5	1175	801,5	930	537	509,5	403	381	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1/2" NPT	641	20,9
KSYM-1600-385-510	1976,5	1175	801,5	930	537	509,5	453	381	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	676	27,5
KSYM-1600-435-510	1976,5	1175	801,5	930	537	509,5	506	381	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	735	35,1
KSYM-1600-485-510	1976,5	1175	801,5	930	537	509,5	555	381	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	778	43,7
KSYM-1600-535-510	1976,5	1175	801,5	930	537	509,5	606	381	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	828	53,1
KSYM-1600-385-650	2127,5	1326	801,5	1081	537	509,5	453	407	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	760	27,5
KSYM-1600-435-650	2127,5	1326	801,5	1081	537	509,5	506	407	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	819	35,1
KSYM-1600-485-650	2127,5	1326	801,5	1081	537	509,5	555	407	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	862	43,7
KSYM-1600-535-650	2127,5	1326	801,5	1081	537	509,5	606	407	513	292	221	117	237	109	200	50	M6	28	104,2	98	F30	F25	1" NPT	912	53,1

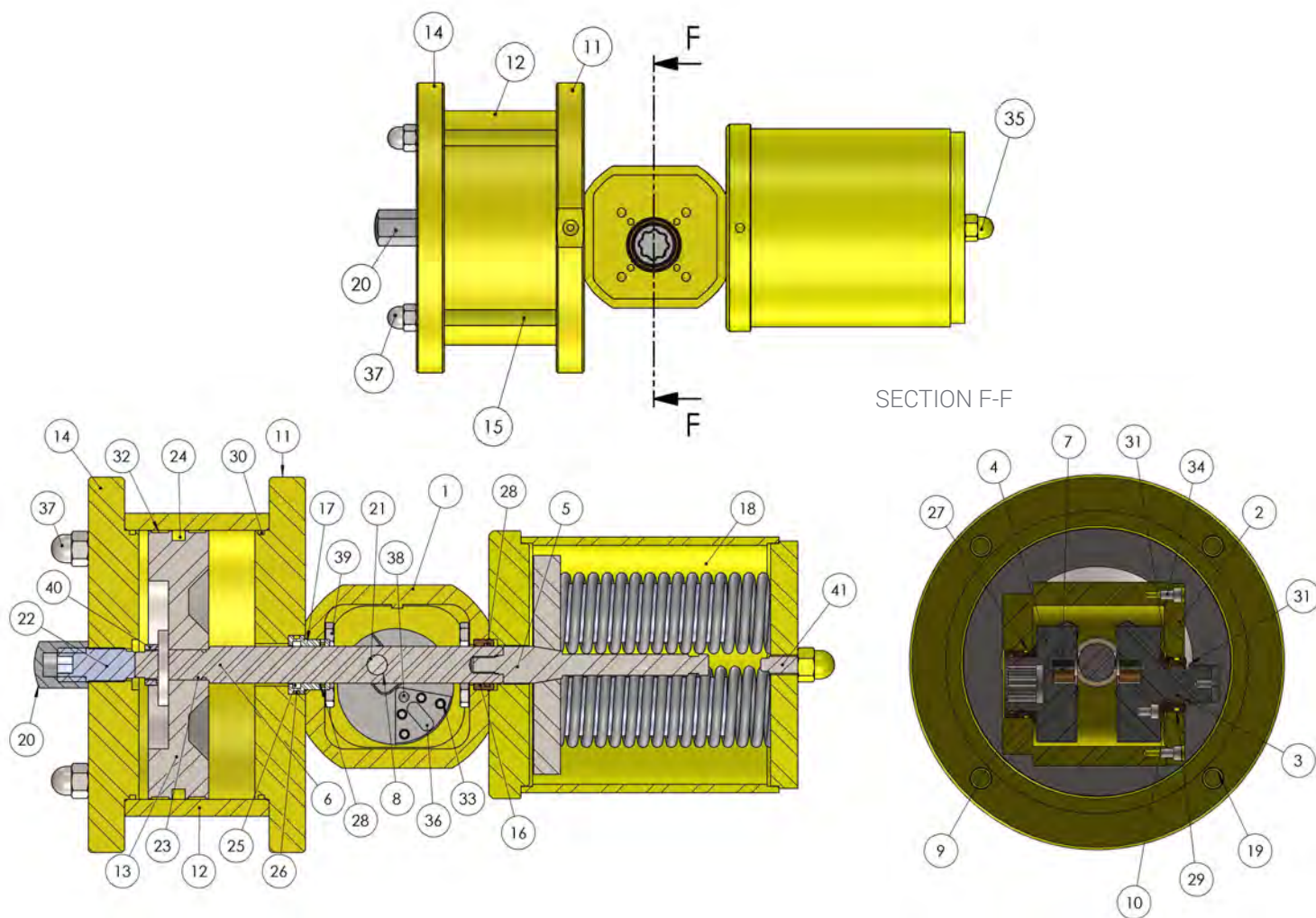
NOTE: All dimensions are in mm | All dimensions and weigh are without brackets | Weight is in Kg | Drawing is not scaled | Air volume is in litres
ALTER *: Alternative ISO5211 can be mechanized under request
AIR CONN: Air connection can be codified under request



Dimensions KSYM 400-900-1600-3500.5000-10.000

	AA'	B	C	D	EE'	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	V	ISO 5211	AL-TER.*	AIR CONN.*	WEI GHT	AIR VOL.
KSYM-3500-485-610	2418,5	1558	860,5	1294	581	543,5	555	381	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	940	53,2
KSYM-3500-535-610	2418,5	1558	860,5	1294	581	543,5	606	381	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	988	63,6
KSYM-3500-385-782	2412	1551,5	860,5	1287,5	581	543,5	453	407	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	872	33
KSYM-3500-435-782	2412	1551,5	860,5	1287,5	581	543,5	506	407	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	934	42
KSYM-3500-485-782	2412	1551,5	860,5	1287,5	581	543,5	555	407	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	987	53,2
KSYM-3500-535-782	2412	1551,5	860,5	1287,5	581	543,5	606	407	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1035	63,6
KSYM-3500-435-1057	2423,5	1563	860,5	1299	581	543,5	506	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1122	42
KSYM-3500-485-1057	2423,5	1563	860,5	1299	581	543,5	555	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1175	53,2
KSYM-3500-535-1057	2423,5	1563	860,5	1299	581	543,5	606	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1223	63,6
KSYM-3500-585-1057	2423,5	1563	860,5	1299	581	543,5	658	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1297	76
KSYM-3500-635-1057	2423,5	1563	860,5	1299	581	543,5	706	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1408	89,5
KSYM-3500-685-1057	2423,5	1563	860,5	1299	581	543,5	757	521	573,5	347,5	226	140	237,5	115	200	50	M6	32	127,3	120	F35	F30	1" NPT	1498	104
KSYM-5000-485-1130	2739	1704	1035	1345	754	640	555	521	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1525	63
KSYM-5000-535-1130	2739	1704	1035	1345	754	640	606	521	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1573	76,6
KSYM-5000-585-1130	2739	1704	1035	1345	754	640	658	521	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1647	91,6
KSYM-5000-635-1130	2739	1704	1035	1345	754	640	706	521	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1768	108
KSYM-5000-685-1130	2739	1704	1035	1345	754	640	757	521	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1857	125
KSYM-5000-535-1390	2592	1557	1035	1198	754	640	606	584	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1703	76,6
KSYM-5000-585-1390	2592	1557	1035	1198	754	640	658	584	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1777	91,6
KSYM-5000-635-1390	2592	1557	1035	1198	754	640	706	584	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1898	108
KSYM-5000-685-1390	2592	1557	1035	1198	754	640	757	584	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1987	125
KSYM-5000-735-1390	2592	1557	1035	1198	754	640	810	584	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2090	144,6
KSYM-5000-585-1800	2622	1587	1035	1228	754	640	658	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	1917	91,6
KSYM-5000-635-1800	2622	1587	1035	1228	754	640	706	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2038	108
KSYM-5000-685-1800	2622	1587	1035	1228	754	640	757	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2125	125
KSYM-5000-735-1800	2622	1587	1035	1228	754	640	810	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2215	144,6
KSYM-5000-785-1800	2622	1587	1035	1228	754	640	860	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2310	165
KSYM-5000-635-2220	2621	1586	1035	1227	754	640	706	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2108	108
KSYM-5000-685-2220	2621	1586	1035	1227	754	640	757	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2197	125
KSYM-5000-735-2220	2621	1586	1035	1227	754	640	810	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2293	144,6
KSYM-5000-785-2220	2621	1586	1035	1227	754	640	860	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2402	165
KSYM-5000-835-2200	2621	1586	1035	1227	754	640	915	609	689,5	407,5	282	170	314	154	260	50	M6	36	157,9	150	F40	F30	1" NPT	2491	187
KSYM-10000-635-2500	3700	2291	1409	1791	1028	881	712	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2254	142,4
KSYM-10000-685-2500	3700	2291	1409	1791	1028	881	762	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2304	165,8
KSYM-10000-735-2500	3700	2291	1409	1791	1028	881	812	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2365	190,8
KSYM-10000-785-2500	3700	2291	1409	1791	1028	881	862	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2442	217,7
KSYM-10000-835-2500	3700	2291	1409	1791	1028	881	912	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2523	246,3
KSYM-10000-885-2500	3700	2291	1409	1791	1028	881	962	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2615	276,7
KSYM-10000-935-2500	3700	2291	1409	1791	1028	881	1012	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2713	308,8
KSYM-10000-685-3000	3794	2385	1409	1885	1028	881	762	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2336	342,7
KSYM-10000-735-3000	3794	2385	1409	1885	1028	881	812	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2397	190,8
KSYM-10000-785-3000	3794	2385	1409	1885	1028	881	862	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2474	217,7
KSYM-10000-835-3000	3794	2385	1409	1885	1028	881	912	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2555	246,3
KSYM-10000-885-3000	3794	2385	1409	1885	1028	881	962	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2647	276,7
KSYM-10000-935-3000	3794	2385	1409	1885	1028	881	1012	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2745	308,8
KSYM-10000-985-3000	3794	2385	1409	1885	1028	881	1062	609,6	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2507	342,7
KSYM-10000-735-3800	3669	2260	1409	1760	1028	881	812	711,2	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2568	190,8
KSYM-10000-785-3800	3669	2260	1409	1760	1028	881	862	711,2	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2645	217,7
KSYM-10000-835-3800	3669	2260	1409	1760	1028	881	912	711,2	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2726	246,3
KSYM-10000-885-3800	3669	2260	1409	1760	1028	881	962	711,2	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2818	276,7
KSYM-10000-935-3800	3669	2260	1409	1760	1028	881	1012	711,2	890	505	385	225	430	210,5	360	150	M6	45	194,9	185	F48	F40	1" NPT	2916	308,8
KSYM-10000-985-3800	3669	2260	1409	1760	1028	881	1062	711,2	890	505	385	225	430	210,5	360	150	M6	45	194						

Materials KSY|KSYM from 025 to 050



Item	Description	Qty
1	Body	1
2	Cover	1
3	Top Yoke	1
4	Bottom Yoke	1
5	Spring Cylinder Bar	1
6	Piston bar	1
7	Slide Pin	1
8	Pin	2
9	Body Rod Tip I	1
10	Cover Rod Tip	1
11	Internal End cap	1
12	Cylinder	1
13	Piston Rod	1

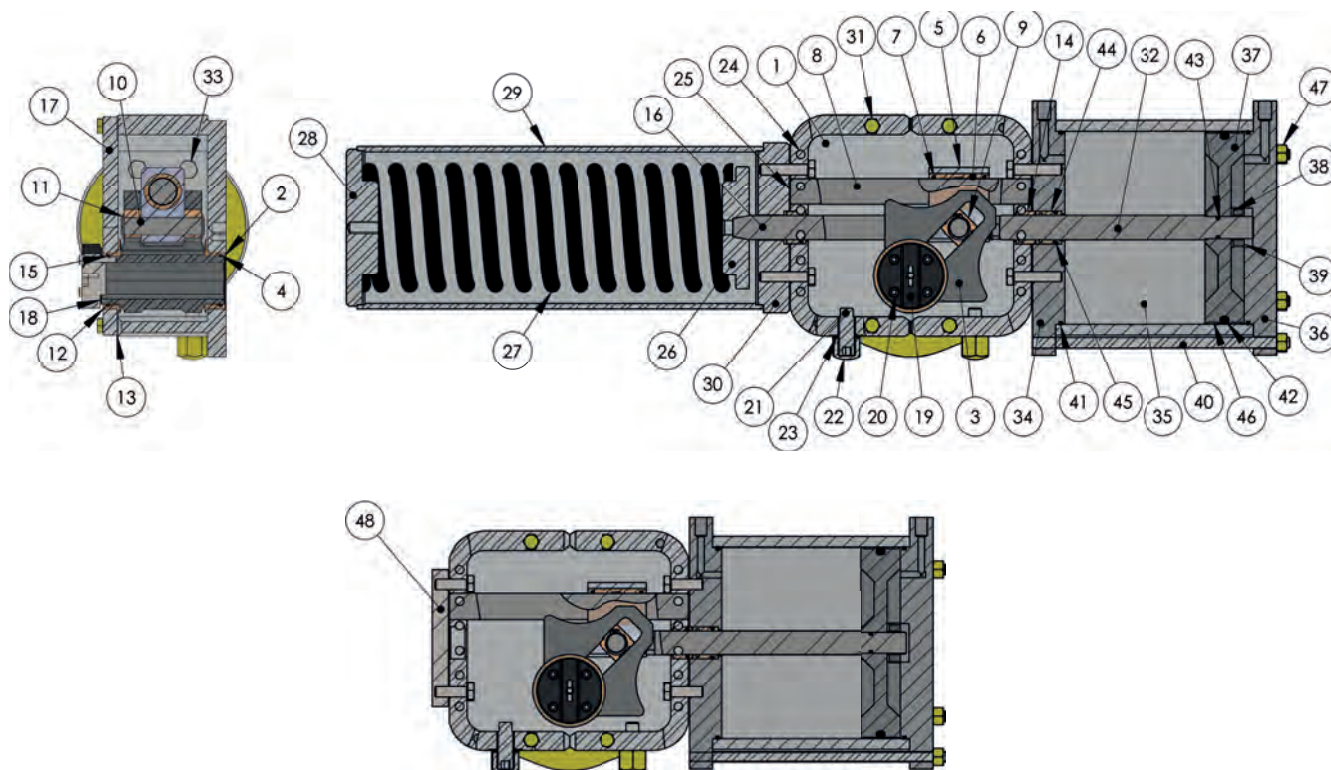
Item	Description	Qty
14	External End Cap	1
15	Tie hexagon Bolt	2
16	Body Rod Tip I	1
17	Body Rod Tip II	1
18	Spring Cartridge	1
19	Tie Bolt washer	4
20	Travel Stop Nut I	1
21	Retainer Ring	2
22	Travel Stop Bolt I	1
23*	O-Ring I	1
24*	Piston O-Ring	1
25*	Piston Rod O-Ring	1
26*	Body Rod Tip O-Ring	1

Item	Description	Qty
27*	Body Rod Tip Ext. O-Ring	2
28*	Rod tip O-ring II	1
29*	Piston O-ring	1
30*	End Cap O-ring	2
31	Retainer ring	1
32*	Guide band	2
33	Yoke nut	4
34	Allen bolt	14
35	Travel stop bolt II	1
36	Key	1
37	Tie bolt nut	4
38	Pin	1
39	Hexagon bolt	4
40	Lock Nut	1
41	Travel stop Nut II	1

* Spare parts



Materials KSY|KSYM 100



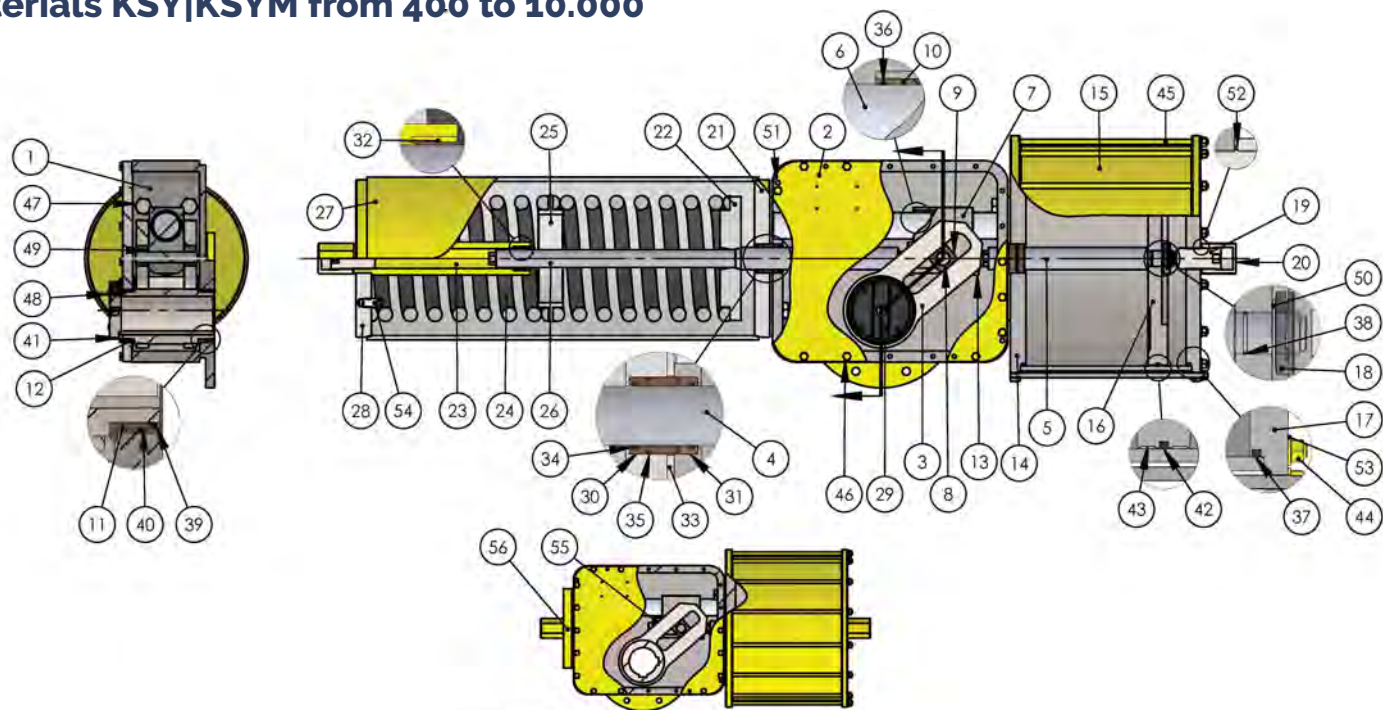
Item	Description	Qty
1	Body	1
2	Body tip	1
3	Yoke	1
4*	Body tip O-ring	2
5	Slide block	1
6	Slide block tip	1
7*	Slide block O-ring	2
8	Guide bar	1
9	Slide	2
10	Slide pin	1
11	Packing ring	2
12	Cover tip	1
13*	Cover seal	1
14	Piston rod tip	2SR-1DA
15*	Cover tip O-ring	2
16	Spring rod	1SR-ODA

Item	Description	Qty
17	Cover	1
18*	Indicator seal	1
19	Indicator	1
20	Indicator bolt	4
21	Travel stop bolt	2
22	Travel stop nut	2
23*	Travels stop O-ring	2
24	Cover fixed pin	2
25*	Body seal	2
26	Spring retainer	1SR-ODA
27	Spring	1SR-ODA
28	Spring end cover	1SR-ODA
29	Spring cylinder	1SR-ODA
30	Spring font cover	1SR-ODA
31	Cover bolt	16
32	Piston rod	1

Item	Description	Qty
33	Body hexagon bolt	8
34	Cylinder front cover	1
35	Air cylinder	1
36	Cylinder end cover	1
37	Piston	1
38	Retaining ring	1
29	Security nut	1
40	Tie bolt	4
41*	Cylinder cover O-ring	2
42*	Piston O-ring	1
43*	Piston bar seal O-ring	1
44	Air cylinder tip	2SR-1DA
45*	Air cylin. tip O-ring	4SR-2DA
46*	Teflon seal	2
47	Hexagon nut	4
48	Plate double acting	1SR-ODA

* Spare parts | SR: Spring return KSYM | DA: Double Acting KSY

Materials KSY|KSYM from 400 to 10.000



Item	Description	Qty
1	Body	1
2	Cover	1
3	Yoke	1
4	Spring cylinder bar	1
5	Piston rod	1
6	Guide bar	1
7	Slide block	1
8	Slide pin	1
9	Silde	1
10	Silde block tip	1
11	Body tip	1
12	Cover tip	1
13	Slip washer	4
14	Cylinder end cover	1
15	Air cylinder	1
16	Air piston	1
17	Cylinder end cover	1
18	Lock nut	1
19	Travel stop bolts	2
20	Travel stop nuts	2
21	Spring front cover	1SR - 0DA
22	Spring retainer	1SR - 0DA
23	Spring cylinder guide	1SR - 0DA
24	Spring	2SR - 0DA
25	Spring separator disc	1SR - 0DA
26	Spring guide bar	1SR - 0DA
27	Spring cylinder	1SR - 0DA
28	Spring end cover	1SR - 0DA

Item	Description	Qty
29	Indicator	1
30	Body rod tip I	2SR - 1DA
31	Body rod tip II	2SR - 1DA
32	Spring guide tip	1
33	Plate	2
34*	Body rod tip o-ring	4SR - 2DA
35*	Body rod tip ext. o-ring	2SR - 1DA
36*	Slide block tip o-ring	2
37*	Air cylinder tip o-ring	2
38*	Piston o-ring I	1
39*	Cover & body tip o-ring I	2
40*	Cover & body tip o-ring II	2
41*	Indicator seal	1
42*	Piston o-ring II	1
43*	Teflon seal	2
44	Hexagon nut	8 to 24
45	Tire bolt	28 to 24
46	Cover hexagonal bolt	16
47	Body hexagonal bolt	8
48	Indicator bolt	4
49	Retainer Ring	2
50	Washer	1
51	Pin	2
52*	Travel stop o-ring	2
53	Tie bolt washer	28 to 24
54	Center spring bolt	6SR - 0DA
55	Travel stop double acting	0SR - 1DA
56	Lateral plate double acting	0SR - 1DA

* Spare parts | SR: Spring return KSYM | DA: Double Acting KSY

Quifer Actuators

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Double Acting Symmetric Torques

		Symmetric					Pneumatic Storke Torques (Nm) At Operating Pressure							
		Max. Torque	Max. Pressure	Position of Stroke		3 bar 43,5 PSI	4 bar 58 PSI	4,5 bar 65PSI	5 bar 72,5 PSI	5,5 bar 80 PSI	6 bar 87 PSI	7 bar 101,5 PSI	8 bar 116 PSI	9 bar 130 PSI
KSY 025														
Ø AIR CYLINDER	140	500	9	0°	BTO-ETC		108	120	132	144	168	192	216	
				45°	RTO-RTC		67	74	82	89	104	119	134	
				90°	ETO-BTC		108	120	132	144	168	192	216	
	160	500	7	0°	BTO-ETC	125	141	157	172	188	219			
				45°	RTO-RTC		77	87	97	106	116	135		
				90°	ETO-BTC		125	141	157	172	188	219		
	180	500	6	0°	BTO-ETC		159	179	198	218	238			
				45°	RTO-RTC		98	110	123	135	147			
				90°	ETO-BTC		159	179	198	218	238			
	200	500	5	0°	BTO-ETC	147	196	221	245					
				45°	RTO-RTC	91	121	136	151					
				90°	ETO-BTC	147	196	221	245					
KSY 050														
Ø AIR CYLINDER	140	4000	9	0°	BTO-ETC		234	260	286	312	364	416	468	
				45°	RTO-RTC		144	160	176	192	224	256	288	
				90°	ETO-BTC		234	260	286	312	364	416	468	
	160	4000	6	0°	BTO-ETC	272	306	340	374	408	476			
				45°	RTO-RTC		143	161	179	197	215	251		
				90°	ETO-BTC		272	306	340	374	408	476		
	180	4000	4	0°	BTO-ETC		344	387	430	473	516			
				45°	RTO-RTC		212	239	265	292	318			
				90°	ETO-BTC		344	387	430	473	516			
	200	4000	3	0°	BTO-ETC	319	425	478	531					
				45°	RTO-RTC	196	262	294	327					
				90°	ETO-BTC	319	425	478	531					
Symmetric														
Pneumatic Storke Torques (Nm) At Operating Pressure														
Max. Torque	Max. Pressure	Position of Stroke		3 Bar 43,5 PSI	4 Bar 58 PSI	4,5 bar 65PSI	5 Bar 72,5 PSI	5,5 Bar 80 PSI	6 Bar 87 PSI	7 Bar 101,5 PSI	8 Bar 116 PSI	9 Bar 130 PSI		
KSY 100														
Ø AIR CYLINDER	160	1500	9	0°	BTO-ETC	353	471	530	588	647	706	824	941	1059
				45°	RTO-RTC	217	289	326	362	398	434	506	579	651
				90°	ETO-BTC	353	471	530	588	647	706	824	941	1059
	180	1500	8	0°	BTO-ETC	447	595	670	744	819	893	1042	1191	1340
				45°	RTO-RTC	275	367	413	458	504	550	642	733	825
				90°	ETO-BTC	447	595	670	744	819	893	1042	1191	1340
	200	1500	8	0°	BTO-ETC	552	735	827	919	1011	1103	1287	1471	
				45°	RTO-RTC	340	453	509	566	622	679	792	905	
				90°	ETO-BTC	552	735	827	919	1011	1103	1287	1471	
	220	1500	6	0°	BTO-ETC	662	883	993	1103	1214	1324			
				45°	RTO-RTC	411	547	616	684	753	821			
				90°	ETO-BTC	662	883	993	1103	1214	1324			
	250	1500	5	0°	BTO-ETC	862	1149	1292	1436					
				45°	RTO-RTC	530	707	796	884					
				90°	ETO-BTC	862	1149	1292	1436					

25% Safety factor is recommended | 35% For low temperature

Double Acting Symmetric Torques

		Symmetric												Pneumatic Storke Torques (Nm) At Operating Pressure											
		Max. Torque	Max. Pressure	Position of Stroke		3 Bar 43,5 PSI	4 Bar 58 PSI	5 Bar 72,5 PSI	5,5 Bar 80 PSI	6 Bar 87 PSI	7 Bar 101,5 PSI	8 Bar 116 PSI	9 Bar 130 PSI	10 Bar 145 PSI											
KSY 400																									
Ø AIR CYLINDER	235	4000	9	0°	BTO-ETC	1376	1834	2293	2522	2751	3210	3668	4127												
				45°	RTO-RTC	774	1032	1290	1419	1548	1807	2065	2323												
				90°	ETO-BTC	1039	1386	1732	1906	2079	2425	2772	3118												
	280	4000	6	0°	BTO-ETC	1953	2604	3255	3580	3906															
				45°	RTO-RTC	1099	1465	1832	2015	2198															
				90°	ETO-BTC	1476	1968	2459	2705	2951															
	335	4000	4	0°	BTO-ETC	2795	3727																		
				45°	RTO-RTC	1573	2098																		
				90°	ETO-BTC	2112	2816																		
	385	4000	3	0°	BTO-ETC	3692																			
				45°	RTO-RTC	2078																			
				90°	ETO-BTC	2790																			
KSY 900																									
Ø AIR CYLINDER	235	9000	10	0°	BTO-ETC						4127	4716	5306	5895											
				45°	RTO-RTC						2323	2654	2986	3318											
				90°	ETO-BTC						3118	3564	4009	4455											
	280	9000	10	0°	BTO-ETC				4185	4603	5021	5858	6695	7532	8369										
				45°	RTO-RTC				2355	2591	2826	3297	3768	4239	4711										
				90°	ETO-BTC				3162	3478	3794	4427	5059	5692	6324										
	335	9000	7	0°	BTO-ETC		4792	5990	6589	7188	8386														
				45°	RTO-RTC		2697	3371	3709	4046	4720														
				90°	ETO-BTC		3621	4526	4979	5432	6337														
	385	9000	5,5	0°	BTO-ETC	4747	6329	7911	8702																
				45°	RTO-RTC	2672	3562	4453	4898																
				90°	ETO-BTC	3587	4783	5978	6576																
435	9000	4	0°	BTO-ETC	6060	8080																			
			45°	RTO-RTC	3411	4548																			
			90°	ETO-BTC	4579	6106																			
KSY 1600																									
Ø AIR CYLINDER	335	16000	10	0°	BTO-ETC					9344	10902	12459	14016	15574											
				45°	RTO-RTC					5259	6136	7013	7889	8766											
				90°	ETO-BTC					7061	8238	9415	10592	11768											
	385	16000	8	0°	BTO-ETC	6171	8228	10285	11313	12342	14399	16456													
				45°	RTO-RTC	3473	4631	5789	6368	6947	8104	9262													
				90°	ETO-BTC	4663	6217	7772	8549	9326	10880	12435													
	435	16000	6	0°	BTO-ETC	7878	10504	13130	14443	15756															
				45°	RTO-RTC	4434	5912	7390	8129	8868															
				90°	ETO-BTC	5953	7937	9922	10914	11906															
	485	16000	5	0°	BTO-ETC	9793	13057	16321																	
				45°	RTO-RTC	5512	7349	9186																	
				90°	ETO-BTC	7400	9867	12333																	
535	16000	4	0°	BTO-ETC	11916	15888																			
			45°	RTO-RTC	6707	8943																			
			90°	ETO-BTC	9004	12006																			
KSY 3500																									
Ø AIR CYLINDER	335	35000	10	0°	BTO-ETC							16772	18635												
				45°	RTO-RTC							9440	10489												
				90°	ETO-BTC							12674	14082												
	385	35000	10	0°	BTO-ETC						17229	19690	22152	24613											
				45°	RTO-RTC						9697	11083	12468	13853											
				90°	ETO-BTC						13019	14879	16739	18599											

25% Safety factor is recommended | 35% For low temperature



Double Acting Symmetric Torques

		Symmetric					Pneumatic Storke Torques (Nm) At Operating Pressure							
		Max. Torque	Max. Pressure	Position of Stroke		3 Bar 43,5 PSI	4 Bar 58 PSI	5 Bar 72,5 PSI	5,5 Bar 80 PSI	6 Bar 87 PSI	7 Bar 101,5 PSI	8 Bar 116 PSI	9 Bar 130 PSI	10 Bar 145 PSI
KSY 3500														
Ø AIR CYLINDER	435	35000	10	0°	BTO-ETC				17282	18853	21995	25137	28279	31421
				45°	RTO-RTC				9727	10611	12380	14148	15917	17685
				90°	ETO-BTC				13059	14246	16621	18995	21369	23744
	485	35000	9	0°	BTO-ETC	19530			21483	23436	27342	31248	35154	
				45°	RTO-RTC				10992	12092	13191	15389	17588	19786
				90°	ETO-BTC				14758	16234	17709	20661	23613	26564
	535	35000	7	0°	BTO-ETC	14259	19011	23764	26141	28517	33270			
				45°	RTO-RTC	8025	10700	13376	14713	16051	18726			
				90°	ETO-BTC	10775	14366	17958	19753	21549	25141			
KSY 5000														
Ø AIR CYLINDER	485	50000	10	0°	BTO-ETC						30723	35112	39501	43890
				45°	RTO-RTC						18687	21357	24026	26696
				90°	ETO-BTC						26716	30533	34350	38166
	535	50000	9	0°	BTO-ETC	16022	21363	26703	29373	32044	37384	42725	48066	
				45°	RTO-RTC	9745	12993	16242	17866	19490	22739	25987	29235	
				90°	ETO-BTC	13932	18577	23221	25543	27865	32509	37153	41797	
	585	50000	8	0°	BTO-ETC	19157	25542	31928	35120	38313	44699	51084		
				45°	RTO-RTC	11652	15536	19420	21362	23303	27187	31071		
				90°	ETO-BTC	16658	22211	27764	30540	33317	38869	44422		
	635	50000	6	0°	BTO-ETC	22571	30095	37619	41380	45142				
				45°	RTO-RTC	13729	18305	22881	25169	27457				
				90°	ETO-BTC	19628	26170	32713	35984	39255				
	685	50000	5,5	0°	BTO-ETC	26266	35021	43776	48154					
				45°	RTO-RTC	15976	21301	26626	29289					
				90°	ETO-BTC	22840	30454	38067	41874					
	735	50000	5	0°	BTO-ETC	30240	40320	50400						
				45°	RTO-RTC	18393	24524	30655						
				90°	ETO-BTC	26296	35062	43827						
KSY 10000														
Ø AIR CYLINDER	685	10000	10	0°	BTO-ETC	34763	46351	57938	63732	69526	81114	92701	104289	
				45°	RTO-RTC	19901	28192	35241	38765	42289	49337	56385	63433	
				90°	ETO-BTC	30230	40306	50383	55421	60460	70536	80613	90689	
	735	10000	10	0°	BTO-ETC	40023	53364	66705	73376	80046	93387	106728		
				45°	RTO-RTC	22912	32458	40573	44630	48687	56802	64917		
				90°	ETO-BTC	38804	46405	58007	63807	69608	81209	92810		
	785	10000	10	0°	BTO-ETC	45654	60872	76089	83698	91307	106525			
				45°	RTO-RTC	26135	37025	46281	50909	55537	64793			
				90°	ETO-BTC	39700	52934	66167	72784	79400	92634			
	835	10000	9	0°	BTO-ETC	51655	68873	86091	94700	103309				
				45°	RTO-RTC	31418	41891	52364	57601	62837				
				90°	ETO-BTC	44919	59892	74864	82351	89837				
	885	10000	8	0°	BTO-ETC	58026	77368	96710	106381					
				45°	RTO-RTC	35294	47058	58823	64705					
				90°	ETO-BTC	50459	67279	84099	92508					
	935	10000	6	0°	BTO-ETC	64768	86357	107946						
				45°	RTO-RTC	39394	52526	65657						
				90°	ETO-BTC	56322	75096	93870						
	985	10000	5,5	0°	BTO-ETC	71880	95840							
				45°	RTO-RTC	43720	58294							
				90°	ETO-BTC	62507	83342							
	1035	10000	5	0°	BTO-ETC	79363	105817							
				45°	RTO-RTC	48272	64362							
				90°	ETO-BTC	69014	92018							

25% Safety factor is recommended | 35% For low temperature

Spring Return Symmetric Fail Close Torques

			Spring Torque			Symmetric Fail Close									Pneumatic Storke Torques (Nm) At Operating Pressure														
						4 bar /58 PSI			4,5 bar / 65 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI					
			ETC	RTC	BTC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO			
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°			
KSYM 025	S005	140	63	47	93													92	42	67	118	62	88	144	78	113			
		160	63	47	93				89	45	59	106	55	75	123	65	92	140	76	109									
		180	63	47	93	108	56	78	130	69	99	151	82	120	172	95	142												
	S010	180	126	90	172							138	70	92	165	86	118	131	65	85	174	91	127	216	117	170			
		200	126	90	172													191	102	145	244	134	198						
		220	126	90	172	130	65	84	162	84	116	194	104	148	226	123	179	258	142	211									
KSYM 050	S027	180	271	195	373										239	114	137	285	142	183	378	198	276	470	255	368			
		200	271	195	373				244	117	142	301	152	199	358	187	256	415	221	313									
		220	271	195	373	283	141	181	352	183	250	421	225	319	490	267	388												
	KSYM 100	S046	180	462	340	659										420	195	223	500	244	303	660	341	463	820	438	623		
200			462	340	659							528	260	330	626	321	429	725	381	528	923	501	726	1121	621	924			
220			462	340	659	496	241	299	616	314	419	735	387	538	855	459	658	975	532	778									
S078		220	792	582	1125													645	291	312	885	436	551	1125	582	791			
		250	792	582	1125							755	357	421	909	451	576	1064	545	730	1373	732	1040						
		280	792	582	1125	760	360	427	954	478	621	1148	596	814	1342	714	1008												

			Spring Torque									Symmetric Fail Close															Pneumatic Storke Torques (Nm) At Operating Pressure																	
			ETC			RTC			BTC			3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI											
												BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO									
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°												
KSYM 400	S110	235	1175	854	1342										1347	565	564	1576	694	737	2035	953	1083	2493	1211	1430	2952	1469	1776															
		280	1175	854	1342				1429	611	626	2080	978	1117	2405	1161	1363	2731	1344	1609	3381	1711	2101	4032	2077	2593																		
		335	1175	854	1342	1620	719	770	2552	1244	1474	3484	1768	2178	3950	2030	2531																											
	S160	235	1662	1209	1900										1593	623	559	1918	806	805	2244	989	1051	2894	1356	1543	3545	1722	2035	2465	1114	1218												
		280	1662	1209	1900							2065	889	916	2997	1413	1620	3463	1675	1973	3929	1938	2325							4196	2088	2527												
		335	1662	1209	1900							2030	869	890	3261	1562	1820	4491	2254	2750																								
	S220	280	2290	1715	2680													1616	483	271	2266	850	763	2917	1216	1255	3568	1582	1747															
		335	2290	1715	2680										2369	907	840	2835	1169	1193	3301	1432	1545	4232	1956	2249																		
		385	2290	1715	2680							2633	1056	1040	3863	1748	1970																											
435	2290	1715	2680	2423	938	882	3994	1822	2069																																			
KSYM 900	S140	235	1427	1067	1700							1521	592	527	1815	758	750	2110	924	973	2700	1256	1418	3289	1587	1864	3879	1919	2309															
		280	1427	1067	1700				1921	817	830	2758	1288	1462	3176	1524	1778	3594	1759	2094	4431	2230	2727	5268	2701	3359	6105	3172	3992															
		335	1427	1067	1700	2167	956	1016	3365	1630	1921	4563	2304	2826	5162	2642	3279	5761	2979	3732																								
	S200	235	2061	1451	2451										2542	1140	1027	2960	1375	1343	2066	872	667	2655	1203	1113	3245	1535	1558															
		280	2061	1451	2451										4528	2258	2528	5127	2595	2981	3797	1846	1976	4634	2317	2608	5471	2788	3241															
		335	2061	1451	2451				2731	1246	1170	3929	1920	2075	4528	2258	2528	5127	2595	2981	6325	3269	3886	7523	3943	4791	8721	4618	5696															
	S200	385	2061	1451	2451	2686	1221	1136	4268	2111	2332	5850	3002	3527	6641	3447	4125	7433	3892	4723	9015	4783	5919																					
		435	2061	1451	2451	3999	1960	2128	6019	3097	3655	8039	4234	5181	9049	4802	5944																											
	S290	280	2938	2050	3460																2920	1247	967	3757	1718	1599	4594	2189	2232															
		335	2938	2050	3460							3052	1321	1066	3651	1659	1519	4250	1996	1972	5448	2670	2877	6646	3344	3782	7844	4019	4687															
		385	2938	2050	3460				3391	1512	1323	4973	2403	2518	5764	2848	3116	6556	3293	3714	8138	4184	4910	9720	5075	6105																		
	S290	435	2938	2050	3460	3122	1361	1119	5142	2498	2646	7162	3635	4172	8172	4203	4935																											
		485	2938	2050	3460	4595	2190	2232	7106	3603	4130																																	
		S390	335	3956	2757	4668																			4430	1963	1669	5628	2637	2574	6826	3312	3479											
	385		3956	2757	4668													4746	2141	1908	5538	2586	2506	7120	3477	3702	8702	4368	4897															
435	3956		2757	4668							4124	1791	1438	6144	2928	2964	7154	3496	3727	8164	4065	4490																						
485	3956		2757	4668							6088	2896	2922	8599	4310	4819																												



Spring Return Symmetric Fail Close Torques

			Spring Torque			Symmetric Fail Close									Pneumatic Storke Torques (Nm) At Operating Pressure																	
						3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI					
			ETC	RTC	BTC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO			
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°			
KSYM 1600	S450	335	4555	3221	4992													4789	2038	2069	6347	2915	3246	7904	3792	4423	9461	4668	5600			
		385	4555	3221	4992							5730	2568	2780	6758	3147	3557	7787	3726	4334	9844	4883	5888	11901	6041	7443	13958	7199	8997			
		435	4555	3221	4992				5949	2691	2945	8575	4169	4930	9888	4908	5922	11201	5647	6914	13826	7125	8898									
		485	4555	3221	4992	5238	2291	2408	8502	4128	4875	11766	5965	7341	13398	6884	8575															
		535	4555	3221	4992	7361	3486	4012	11333	5722	7014	15305	7957	10015																		
	S510	335	5131	4026	6559																			7328	2987	2856	8885	3863	4033			
		385	5131	4026	6559										6182	2342	1990	7211	2921	2767	9268	4078	4321	11325	5236	5876	13382	6394	7430			
		435	5131	4026	6559							7999	3364	3363	9312	4103	4355	10625	4842	5347	13250	6320	7331	15876	7798	9315						
		485	5131	4026	6559				7926	3323	3308	11190	5160	5774	12822	6079	7008	14455	6998	8241												
		535	5131	4026	6559	6785	2681	2445	10757	4917	5447	14729	7152	8448																		
	S650	385	6528	5017	8099																			7871	3087	2781	9928	4245	4336	11985	5403	5890
		435	6528	5017	8099										7915	3112	2815	9228	3851	3807	11853	5329	5791	14479	6807	7775						
485		6528	5017	8099				6529	2332	1768	9793	4169	4234	11425	5088	5468	13058	6007	6701	16322	7844	9168										
535		6528	5017	8099				9360	3926	3907	13332	6161	6908	15318	7279	8409																
KSYM 3500	S610	485	6137	4632	7413				9487	4162	4393	13393	6360	7345	15346	7460	8821	17299	8559	10296	21205	10757	13248	25111	12956	16200	29017	15154	19151			
		535	6137	4632	7413	8122	3393	3362	12874	6068	6953	17627	8744	10545	20004	10081	12340	22380	11419	14136	27133	14094	17728	31886	16769	21319						
		385	7824	5944	9509													6944	2368	1650	9405	3753	3510	11866	5139	5370	14328	6524	7230			
		435	7824	5944	9509							7887	2899	2363	9458	3783	3550	11029	4667	4737	14171	6436	7112	17313	8204	9486	20455	9973	11860			
		485	7824	5944	9509				7800	2850	2297	11706	5048	5249	13659	6148	6725	15612	7247	8200	19518	9445	11152	23424	11644	14104	27330	13842	17055			
	S782	535	7824	5944	9509				11187	4756	4857	15940	7432	8449	18317	8769	10244	20693	10107	12040	25446	12782	15632									
		435	10573	7888	12656																			11422	4492	3965	14564	6260	6339	17706	8029	8713
		485	10573	7888	12656										10910	4204	3578	12863	5303	5053	16769	7501	8005	20675	9700	10957	24581	11898	13908			
		535	10573	7888	12656							13191	5488	5302	15568	6825	7097	17944	8163	8893	22697	10838	12485	27450	13513	16076	32203	16188	19668			
		585	10573	7888	12656				12158	4906	4521	17841	8105	8815	20682	9704	10962	23523	11303	13109	29206	14502	17403	34889	17700	21698						
	S1057	635	10573	7888	12656				16210	7187	7583	22905	10955	12642	26253	12839	15172	29601	14724	17702												
		685	10573	7888	12656	12802	5268	5007	20593	9654	10895	28385	14039	16783	32281	16232	19727															
KSYM 5000	S1130	485	11399	9741	17407													14935	6276	5493	19324	8946	9309	23713	11616	13126	28102	14285	16943			
		535	11399	9741	17407							15304	6501	5814	17974	8125	8136	20645	9749	10458	25985	12998	15102	31326	16246	19746	36667	19494	24390			
		585	11399	9741	17407				14143	5795	4804	20529	9679	10357	23721	11621	13133	26914	13562	15910	33300	17446	21462	39685	21330	27015	46071	25214	32568			
		635	11399	9741	17407				18696	8564	8763	26220	13140	15306	29981	15428	18577	33743	17716	21848	41267	22292	28391	48791	26869	34933						
		685	11399	9741	17407	14867	6235	5433	23622	11560	13047	32377	16885	20660	36755	19548	24467	41132	22210	28273												
	S1390	535	13921	11351	19814										15452	6515	5729	18123	8139	8051	23463	11388	12695	28804	14636	17339	34145	17884	21983			
		585	13921	11351	19814							18007	8069	7950	21199	10011	10726	24392	11952	13503	30778	15836	19055	37163	19720	24608	43549	23604	30161			
		635	13921	11351	19814				16174	6954	6356	23698	11530	12899	27459	13818	16170	31221	16106	19441	38745	20682	25984	46269	25259	32526						
		685	13921	11351	19814				21100	9950	10640	29855	15275	18253	34233	17938	22060	38610	20600	25866	47365	25926	33480									
		735	13921	11351	19814	16319	7042	6482	26399	13173	15248	36479	19304	24013	41519	22370	28396	46559	25435	32778												
	S1800	585	18080	14742	25732													20233	8561	7585	26619	12445	13137	33004	16329	18690	39390	20213	24243			
		635	18080	14742	25732							19539	8139	6981	23300	10427	10252	27062	12715	13523	34586	17291	20066	42110	21868	26608	49633	26444	33151			
685		18080	14742	25732							25696	11884	12335	30074	14547	16142	34451	17209	19948	43206	22535	27562										
735		18080	14742	25732				22240	9782	9330	32320	15913	18095	37360	18979	22478	42400	22044	26860	52480	28175	35626										
785		18080	14742	25732				27912	13232	14262	39410	20226	24261	45159	23722	29260	50908	27219	34259													
S2220	635	22236	18543	32750													22906	8914	6505	30430	13490	13048	37954	18067	19590	45477	22643	26133				
	685	22236	18543	32750										25918	10746	9124	30295	13408	12930	39050	18734	20544	47806	24059	28157							
	735	22236	18543	32750							28164	12112	11077	33204	15178	15460	38244	18243	19842	48324	24374	28608										
	785	22236	18543	32750				23756	9431	7244	35254	16425	17243	41003	19921	22242	46752	23418	27241													
	835	22236	18543	32750				29802	13108	12501	42811	21021	23814	49316	24977	29470	55821	28934	35127													

25% Safety factor is recommended | 35% For low temperature

Spring Return Symmetric Fail Close Torques

			Spring Torque			Symmetric Fail Close									Pneumatic Storke Torques (Nm) At Operating Pressure																	
						3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI					
			ETC	RTC	BTC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO			
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°			
KSYM 10000	S2500	685	24222	19850	34742							33716	15391	15641	39510	18915	20679	45304	22439	25718	56892	29487	35794	68479	36535	45871						
		735	24222	19850	34742				29142 12608 11663			42483	20723	23265	49154	24780	29065	55824	28837	34866	69165	36952	46467									
		785	24222	19850	34742				36650 17175 18192			51867	26431	31425	59476	31059	38042	67085	35687	44658												
		835	24222	19850	34742	27433	11568	10177	44651	22041	25150	61869	32514	40122																		
		885	24222	19850	34742	33804	15444	15717	53146	27208	32537	72488	38973	49357																		
		935	24222	19850	34742	40546	19544	21580	62135	32676	40354																					
		985	24222	19850	34742	47658	23870	27765																								
KSYM 10000	S3000	685	29964	25101	44434										33768	13664	10987	39562	17188	16026	51150	24236	26102	62737	31284	36179	74325	38332	46255			
		735	29964	25101	44434							36741 15472 13573			43412	19529	19373	50082	23586	25174	63423	31701	36775	76764	39816	48376						
		785	29964	25101	44434							46125 21180 21733			53734	25808	28350	61343	30436	34966	76561	39692	48200	91779	48948	61433						
		835	29964	25101	44434				38909	16790	15458	56127	27263	30430	64736	32500	37917	73345	37736	45403	90563	48209	60376									
		885	29964	25101	44434				47404	21957	22845	66746	33722	39665	76417	39604	48074	86088	45487	56484												
		935	29964	25101	44434	34804	14293	11888	56393	27425	30662	77982	40556	49436	88777	47122	58823															
		985	29964	25101	44434	41916	18619	18073	65876	33193	38908	89836	47766	59744																		
KSYM 10000	S3800	735	36878	37871	73339																						69850	27046	19471	83191	35160	31073
		785	36878	37871	73339													54429 17666 6061			69647	26922	19295	84865	36178	32528	100083	45434	45762			
		835	36878	37871	73339										57822 19730 9012			66431	24966	16498	83649	35439	31471	100868	45912	46444						
		885	36878	37871	73339							59832 20952 10760			69503	26834	19169	79174	32717	27579	98516	44481	44399									
		935	36878	37871	73339							71068 27786 20531			81863	34352	29918	92658	40918	39305												
		985	36878	37871	73339				58962 20423 10003			82922	34996	30839	94902	42283	41256															

25% Safety factor is recommended | 35% For low temperature



Spring Return Symmetric Fail Open Torques

		Spring Torque			Symetric Fail Open									Pneumatic Storke Torques (Nm) At Operating Pressure																	
					3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI					
		ETO	RTO	BTO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC			
		90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°			
KSYM 100	S023	140	234	181	363							251	113	122	299	143	170	348	172	219	445	231	316	542	290	413	639	349	510		
		160	234	181	363				273	127	144	399	204	270	463	242	334	526	280	397	653	357	524	779	434	650	906	511	777		
		180	234	181	363	247	111	118	407	208	278	568	306	439	648	354	519	728	403	599	888	500	759	1049	598	920	1209	695	1080		
	S046	160	460	333	666													372	167	166	510	251	305	649	334	443	877	418	582		
		180	460	333	666							417	195	221	459	215	243	593	300	387	768	406	563	944	512	738	1119	617	914		
		235	460	333	666	437	207	231	736	378	531	1036	567	830	1140	624	913	1335	747	1129											
	S078	160	782	568	1144																						466	183	104		
		180	782	568	1144																622	277	160	798	382	436					
		235	782	568	1144							714	332	352	785	365	387	1013	512	651	1312	692	951								
KSYM 400	S110	235	888	854	1775										1018	565	747	1191	694	976	1537	953	1435	1884	1211	1893	2230	1469	2352		
		280	888	854	1775				1080	611	829	1571	978	1480	1817	1161	1805	2063	1344	2131	2555	1711	2781	3047	2077	3432	3539	2443	4083		
		335	888	854	1775	1224	719	1020	1928	1244	1952	2632	1768	2884	2985	2030	3350	3337	2293	3816											
	S160	235	1256	1209	2514																			1516	856	1154	1862	1114	1613		
		280	1256	1209	2514							1203	623	741	1449	806	1066	1695	989	1392	2187	1356	2042	2679	1722	2693	3171	2088	3344		
		335	1256	1209	2514				1560	889	1213	2264	1413	2145	2617	1675	2611	2969	1938	3077	3673	2462	4008								
		385	1256	1209	2514	1534	869	1178	2464	1562	2409	3394	2254	3639	3859	2601	4255														
	S220	280	1787	1715	3563													1164	483	343	1656	850	993	2148	1216	1644	2640	1582	2295		
		335	1787	1715	3563							1733	907	1096	2086	1169	1562	2438	1432	2028	3142	1956	2959	3846	2481	3891	4550	3005	4823		
385		1787	1715	3563				1933	1056	1360	2863	1748	2590	3328	2095	3206	3793	2441	3821												
435		1787	1715	3563	1775	938	1150	2962	1822	2721																					
KSYM 900	S140	235	1078	1004	2250										1372	821	992	1595	987	1287	2040	1319	1877	2486	1650	2466	2931	1982	3056		
		280	1078	1004	2250				1452	880	1098	2084	1351	1935	2400	1587	2353	2716	1822	2771	3349	2293	3608	3981	2764	4445	4614	3235	5282		
		335	1078	1004	2250	1638	1019	1344	2543	1693	2542	3448	2367	3740	3901	2705	4339	4354	3042	4938											
	S200	235	1557	1444	3230																1561	879	897	2007	1210	1486	2452	1542	2076		
		280	1557	1444	3230										1921	1147	1373	2237	1382	1791	2870	1853	2628	3502	2324	3465	4135	2795	4302		
		335	1557	1444	3230				2064	1253	1562	2969	1927	2760	3422	2265	3359	3875	2602	3958	4780	3276	5156	5685	3950	6354	6590	4625	7552		
		385	1557	1444	3230	2030	1228	1517	3226	2118	3099	4421	3009	4681	5019	3454	5472	5617	3899	6264	6813	4790	7846								
	435	1557	1444	3230	3022	1967	2830	4549	3104	4850	6075	4241	6870	6838	4809	7880															
	S290	280	2136	1994	4473																2291	1303	1385	2923	1774	2222	3556	2245	3059		
		335	2136	1994	4473							2390	1377	1517	2843	1715	2116	3296	2052	2715	4201	2726	3913	5106	3400	5111	6011	4075	6309		
		385	2136	1994	4473				2647	1568	1856	3842	2459	3438	4440	2904	4229	5038	3349	5021	6234	4240	6603	7429	5131	8185					
		435	2136	1994	4473	2443	1417	1587	3970	2554	3607	5496	3691	5627	6259	4259	6637	7022	4828	7647											
	485	2136	1994	4473	3556	2246	3060	5454	3659	5571	7351	5073	8082																		
	S390	335	2929	2735	6135																3408	1985	2251	4313	2659	3449	5218	3334	4647		
		385	2929	2735	6135										3647	2163	2567	4245	2608	3359	5441	3499	4941	6636	4390	6523	7832	5280	8105		
		435	2929	2735	6135				3177	1813	1945	4703	2950	3965	5466	3518	4975	6229	4087	5985	7756	5223	8005								
485		2929	2735	6135	2763	1505	1398	4661	2918	3909	6558	4332	6420	7507	5038	7675	8456	5745	8931												
KSYM 1600	S450	335	3442	3032	6606													3619	2227	2738	4796	3104	4296	5973	3981	5853	7150	4857	7410		
		385	3442	3032	6606							4330	2757	3679	5107	3336	4707	5884	3915	5736	7438	5072	7793	8993	6230	9850	10547	7388	11907		
		435	3442	3032	6606				4495	2880	3898	6480	4358	6524	7472	5097	7837	8464	5836	9150	10448	7314	11775	12432	8792	14401					
		485	3442	3032	6606	3958	2480	3187	6425	4317	6451	8891	6154	9715	10125	7073	11347	11358	7992	12980											
		535	3442	3032	6606	5562	3675	5310	8564	5911	9282	11565	8146	13254																	
	S510	335	3878	3789	8679																4360	2347	2223	5537	3224	3780	6714	4100	5337		
		385	3878	3789	8679										4671	2579	2634	5448	3158	3663	7002	4315	5720	8557	5473	7777	10111	6631	9834		
		435	3878	3789	8679							6044	3601	4451	7036	4340	5764	8028	5079	7077	10012	6557	9702	11996	8035	12328	13981	9513	14954		
		485	3878	3789	8679				5989	3560	4378	8455	5397	7642	9689	6316	9274	10922	7235	10907	13389	9072	14171								
	535	3878	3789	8679	5126	2918	3237	8128	5154	7209	11129	7389	11181	12630	8507	13167	14131	9625	15153												
	S650	385	4933	4722	10717																5947	3382	3682	7502	4540	5739	9056	5698	7796		
		435	4933	4722	10717							4989	2668	2413	5981	3407	3726	6973	4146	5039	8957	5624	7664	10941	7102	10290	12926	8580	12916		
		485	4933	4722	10717				4934	2627	2340	7400	4464	5604	8634	5383	7236	9867	6302	8869	12334	8139	12133	14800	9976	15397					
535		4933	4722	10717				7073	4221	5171	10074	6456	9143	11575	7574	11129	13076	8692	13115												

		Spring Torque			Symetric Fail Open									Pneumatic Storke Torques (Nm) At Operating Pressure																	
					3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI					
		ETO	RTO	BTO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC			
		90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°			
KSYM 3500	S610	485	4637	4632	9810				7169	4162	5814	10121	6360	9720	11597	7460	11673	13072	8559	13626	16024	10757	17532	18976	12956	21438	21927	15154	25344		
		535	4637	4632	9810	6138	3393	4449	9729	6068	9201	13321	8744	13954	15116	10081	16331	16912	11419	18707	20504	14094	23460								
	S782	385	5958	5944	12584													5201	2368	2184	7061	3753	4645	8921	5139	7106	10781	6524	9568		
		435	5958	5944	12584							5914	2899	3127	7101	3783	4698	8288	4667	6269	10663	6436	9411	13037	8204	12553	15411	9973	15695		
		485	5958	5944	12584				5848	2850	3040	8800	5048	6946	10276	6148	8899	11751	7247	10852	14703	9445	14758	17655	11644	18664	20606	13842	22571		
		535	5958	5944	12584				8408	4756	6427	12000	7432	11180	13795	8769	13557	15591	10107	15933	19183	12782	20686	22774	15457	25439					
	S1057	435	7855	7888	16748													6391	2723	2105	8766	4492	5247	11140	6260	8389	13514	8029	11531		
		485	7855	7888	16748										8379			4204	4735	9854	5303	6688	12806	7501	10594	15758	9700	14500	18709	11898	18406
		535	7855	7888	16748				6511	2812	2263	10103	5488	7016	11898	6825	9393	13694	8163	11769	17286	10838	16522	20877	13513	21275	24469	16188	26028		
		585	7855	7888	16748				9322	4906	5983	13616	8105	11666	15763	9704	14507	17910	11303	17348	22204	14502	23031								
635		7855	7888	16748	7324	3418	3339	12384	7187	10035	17443	10955	16730	19973	12839	20078	22503	14724	23426	27562	18492	30122									
685		7855	7888	16748	9808	5268	6627	15696	9654	14418	21584	14039	22210	24528	16232	26106															
S1130	485	9924	9741	20018										11067	4942	4122	12976	6276	6316	16792	8946	10705	20609	11616	15094	24426	14285	19483			
	535	9924	9741	20018							13297	6501	6685	15619	8125	9355	17941	9749	12026	22585	12998	17366	27229	16246	22707	31873	19494	28048			
	585	9924	9741	20018				12287	5795	5524	17840	9679	11910	20616	11621	15102	23393	13562	18295	28945	17446	24681	34498	21330	31066						
	635	9924	9741	20018				16246	8564	10077	22789	13140	17601	26060	15428	21362	29331	17716	25124	35874											

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Double Acting Canted Torques

		Canted				Pneumatic Storke Torques (Nm) At Operating Pressure									
		Max. Torque	Max. Pressure	Position of Stroke		3 Bar 43,5 PSI	4 Bar 58 PSI	5 Bar 72,5 PSI	5,5 Bar 80 PSI	6 Bar 87 PSI	7 Bar 101,5 PSI	8 Bar 116 PSI	9 Bar 130 PSI	10 Bar 145 PSI	
KSY 400															
Ø AIR CYLINDER	200	4000	10	0°	BTO-ETC	1096	1461	1827	2009	2192	2558	2923	3288	3654	
				45°	RTO-RTC	549	731	914	1006	1097	1280	1463	1646	1829	
				90°	ETO-BTC	672	897	1121	1233	1345	1569	1793	2017	2241	
	235	4000	8	0°	BTO-ETC	1513	2018	2522	2774	3027	3531	4035			
				45°	RTO-RTC	757	1010	1262	1389	1515	1767	2020			
				90°	ETO-BTC	928	1238	1547	1702	1857	2166	2476			
	280	4000	5,5	0°	BTO-ETC	2148	2864	3581	3939						
				45°	RTO-RTC	1075	1434	1792	1971						
				90°	ETO-BTC	1318	1757	2196	2416						
	335	4000	4	0°	BTO-ETC	3075	4100								
				45°	RTO-RTC	1539	2052								
				90°	ETO-BTC	1886	2515								
	385	4000	3	0°	BTO-ETC	4062									
				45°	RTO-RTC	2033									
				90°	ETO-BTC	2492									
KSY 900															
Ø AIR CYLINDER	235	9000	10	0°	BTO-ETC					4101	4784	5468	6151	6834	
				45°	RTO-RTC					1930	2252	2574	2896	3217	
				90°	ETO-BTC					2324	2711	3099	3486	3873	
	280	9000	9	0°	BTO-ETC	4851		5336	5822	6792	7762	8732			
				45°	RTO-RTC	2284		2512	2740	3197	3654	4111			
				90°	ETO-BTC	2749		3024	3299	3849	4399	4949			
	335	9000	6	0°	BTO-ETC	4167	5555	6944	7639	8333					
				45°	RTO-RTC	1961	2615	3269	3596	3923					
				90°	ETO-BTC	2361	3148	3935	4329	4723					
	385	9000	4	0°	BTO-ETC	5503	7338								
				45°	RTO-RTC	2591	3454								
				90°	ETO-BTC	3119	4158								
	435	9000	3	0°	BTO-ETC	7025									
				45°	RTO-RTC	3307									
				90°	ETO-BTC	3981									
KSY 1600															
Ø AIR CYLINDER	300	16000	10	0°	BTO-ETC					8359	9752	11145	12538	13931	
				45°	RTO-RTC					4132	4820	5509	6197	6886	
				90°	ETO-BTC					5030	5868	6707	7545	8383	
	335	16000	9	0°	BTO-ETC	8685		9554	10423	12160	13897	15634			
				45°	RTO-RTC	4293		4723	5152	6011	6869	7728			
				90°	ETO-BTC	5227		5749	6272	7317	8363	9408			
	385	16000	7	0°	BTO-ETC	6883	9177	11472	12619	13766	16060				
				45°	RTO-RTC	3402	4536	5671	6238	6805	7939				
				90°	ETO-BTC	4142	5523	6903	7594	8284	9665				
	435	16000	5	0°	BTO-ETC	8787	11716	14645							
				45°	RTO-RTC	4343	5791	7239							
				90°	ETO-BTC	5288	7050	8813							
	485	16000	4	0°	BTO-ETC	10923	14564								
				45°	RTO-RTC	5399	7199								
				90°	ETO-BTC	6573	8764								
	535	16000	3	0°	BTO-ETC	13291									
				45°	RTO-RTC	6570									
				90°	ETO-BTC	7998									
KSY 3500															
Ø AIR CYLINDER	335	35000	10	0°	BTO-ETC						14822	16939	19057	21174	
				45°	RTO-RTC						7159	8182	9204	10227	
				90°	ETO-BTC						8666	9904	11142	12380	
	385	35000	10	0°	BTO-ETC			15382	16780	19577	22373	25170	27967		
				45°	RTO-RTC			7429	8105	9455	10806	12157	13508		
				90°	ETO-BTC			8993	9810	11445	13081	14716	16351		

25% Safety factor is recommended | 35% For low temperature

Double Acting Canted Torques

		Canted				Pneumatic Storke Torques (Nm) At Operating Pressure									
		Max. Torque	Max. Pressure	Position of Stroke		3 Bar 43,5 PSI	4 Bar 58 PSI	5 Bar 72,5 PSI	5,5 Bar 80 PSI	6 Bar 87 PSI	7 Bar 101,5 PSI	8 Bar 116 PSI	9 Bar 130 PSI	10 Bar 145 PSI	
KSY 3500															
Ø AIR CYLINDER	435	35000	9	0°	BTO-ETC			17851	19636	21421	24992	28562	32132		
				45°	RTO-RTC			8622	9484	10346	12071	13795	15519		
				90°	ETO-BTC			10437	11480	12524	14611	16699	18786		
	485	35000	7	0°	BTO-ETC	17753		22191	24410	26629	31067				
				45°	RTO-RTC			8574	10718	11790	12861				15005
				90°	ETO-BTC			10379	12974	14271	15569				18163
	535	35000	6	0°	BTO-ETC	16201	21602	27002	29702	32402					
				45°	RTO-RTC	7825	10433	13042	14346	15650					
				90°	ETO-BTC	9472	12629	15787	17365	18944					
	KSY 5000														
	Ø AIR CYLINDER	435	50000	10	0°	BTO-ETC						34825	39178	43531	
					45°	RTO-RTC						16450	18506	20562	
90°					ETO-BTC	20045						22551	25056		
485		50000	9	0°	BTO-ETC						37879	43291	48702		
				45°	RTO-RTC						17892	20448	23004		
				90°	ETO-BTC						21803	24918	28033		
535		50000	7	0°	BTO-ETC	19754	26338	32923	36215	39507	46092				
				45°	RTO-RTC	9331	12441	15551	17106	18661	21772				
				90°	ETO-BTC	11370	15160	18950	20845	22740	26530				
585		50000	6	0°	BTO-ETC	23619	31491	39364	43301	47237					
				45°	RTO-RTC	11156	14875	18594	20453	22313					
				90°	ETO-BTC	13595	18126	22658	24924	27189					
635		50000	5	0°	BTO-ETC	27828	37105	46381							
				45°	RTO-RTC	13145	17526	21908							
				90°	ETO-BTC	16018	21357	26697							
685		50000	4	0°	BTO-ETC	32383	43178								
				45°	RTO-RTC	15296	20395								
				90°	ETO-BTC	18640	24853								
735		50000	4	0°	BTO-ETC	37283	49711								
				45°	RTO-RTC	17611	23481								
				90°	ETO-BTC	21460	28614								
KSY 10000															
Ø AIR CYLINDER	635	100000	9	0°	BTO-ETC	35872	47829	59787	65765	71744	83701	95659	107616		
				45°	RTO-RTC	17324	23098	28873	31760	34647	40422	46196	51971		
				90°	ETO-BTC	21357	28475	35594	39154	42713	49832	56951	64070		
	685	100000	8	0°	BTO-ETC	41761	55681	69602	76562	83522	97442	111363			
				45°	RTO-RTC	20160	26879	33599	36959	40319	47039	53759			
				90°	ETO-BTC	24853	33137	41421	45563	49705	57989	66273			
	735	100000	7	0°	BTO-ETC	48080	64107	80133	88147	96160	112187				
				45°	RTO-RTC	23210	30946	38683	42551	46419	54156				
				90°	ETO-BTC	28613	38151	47688	52457	57226	66764				
	785	100000	6	0°	BTO-ETC	54844	73125	91407	100547	109688					
				45°	RTO-RTC	26475	35300	44125	48538	52950					
				90°	ETO-BTC	32638	43517	54397	59836	65276					
	835	100000	5,5	0°	BTO-ETC	62053	82737	103422	113764						
				45°	RTO-RTC	29955	39940	49925	54918						
				90°	ETO-BTC	36928	49237	61547	67701						
	885	100000	5	0°	BTO-ETC	69707	92943	116178							
				45°	RTO-RTC	33650	44866	56083							
				90°	ETO-BTC	41483	55311	69138							
	935	100000	4	0°	BTO-ETC	77806	103741								
				45°	RTO-RTC	37560	50079								
				90°	ETO-BTC	46303	61737								
985	100000	3	0°	BTO-ETC	86350										
			45°	RTO-RTC	41684										
			90°	ETO-BTC	51388										
1035	100000	4	0°	BTO-ETC	95339										
			45°	RTO-RTC	46023										
			90°	ETO-BTC	56737										

25% Safety factor is recommended | 35% For low temperature

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Spring Return Canted Fail Close Torques

			Spring Torque			Canted Fail Close												Pneumatic Storke Torques (Nm) At Operating Pressure:																	
						3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI								
			ETC	RTC	BTC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO						
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°						
KSYM 400	S110	235	1302	856	1214										1472	533	488	1725	659	643	2229	911	952	2733	1164	1262	3238	1416	1571						
		280	1302	856	1214				1562	578	543	2279	936	982	2637	1115	1202	2995	1294	1422	3711	1653	1861												
		335	1302	856	1214	1773	683	672	2798	1196	1301	3823	1709	1930																					
	S160	235	1841	1211	1718										2098	760	698	2456	939	918	3172	1298	1357	2194	809	758	2699	1061	1067						
		280	1841	1211	1718										3797	1611	1741	4309	1867	2055				3888	1656	1796									
		335	1841	1211	1718				2259	841	797	3284	1354	1426																					
	S220	385	1841	1211	1718	2221	822	774	3575	1499	1604																								
		280	2617	1718	2475																						3112	1149	1039						
		335	2617	1718	2475										3021	1104	984	3533	1360	1298															
	S220	385	2617	1718	2475				2799	992	847	4152	1670	1678																					
		435	2617	1718	2475	2568	877	706																											
	KSYM 900	S140	235	1677	1082	1505										2082	687	625	2424	848	819	3107	1170	1206	3791	1492	1594	4474	1814	1981					
280			1677	1082	1505				2204	745	694	3174	1202	1244	3659	1430	1519	4145	1658	1794	5115	2115	2344	6085	2572	2894									
335			1677	1082	1505	2490	879	856	3878	1533	1643	5267	2187	2430	5962	2514	2824	6656	2841	3218															
S200		235	2421	1555	2160													2915	957	864	3401	1185	1139	4371	1642	1689	3047	1019	939						
		280	2421	1555	2160													5218	2041	2169	5912	2368	2563	7301	3022	3350	8690	3675	4137						
		335	2421	1555	2160	3082	1036	959	4917	1899	1998	6751	2763	3038	7668	3194	3558	8585	3626	4077															
S290		435	2421	1555	2160	4604	1752	1821	6946	2855	3149																								
		280	3323	2184	2992													4316	1412	1337	5010	1739	1731	6399	2393	2518	4439	1470	1407						
		335	3323	2184	2992													6766	2565	2726	7683	2997	3245				7788	3046	3305						
S390		385	3323	2184	2992				4015	1270	1166	5849	2134	2206	8386	3328	3644																		
		435	3323	2184	2992	6044	2226	2317	8321	3297	3607																								
		485	3323	2184	2992	5410	1927	1957																											
S390	335	4558	2947	4104																			5164	1630	1406	6553	2283	2193							
	385	4558	2947	4104										4614	1371	1094	5531	1802	1614	6448	2234	2133	8283	3098	3173										
	435	4558	2947	4104				4809	1463	1205	7151	2565	2532	8322	3116	3195																			
S390	485	4558	2947	4104				7086	2534	2495																									
	S450	335	5108	3253	4496													5315	1899	1776	7052	2758	2821	8789	3616	3867	10526	4475	4912						
385		5108	3253	4496										6364	2418	2407	7511	2985	3098	8658	3552	3788	10952	4686	5169	13247	5820	6549							
435		5108	3253	4496				6608	2538	2554	9537	3986	4317	11001	4710	5198	12466	5434	6079	15395	6882	7842													
485		5108	3253	4496	5815	2146	2077	9456	3946	4268	13097	5746	6459	14917	6646	7555	16738	7546	8650																
535		5108	3253	4496	8183	3317	3502	12614	5507	6168																									
S510	335	5799	4111	5932																						8098	2758	2431							
	385	5799	4111	5932													7967	2694	2352	10261	3828	3733	12556	4962	5113	14850	6096	6494							
	435	5799	4111	5932										8846	3128	2881	10310	3852	3762	11775	4576	4643	14704	6024	6406										
	485	5799	4111	5932				8765	3088	2832	12406	4888	5023	14226	5788	6119	16047	6688	7214																
	535	5799	4111	5932	7492	2459	2066	11923	4649	4732	16353	6839	7399																						
S650	385	7366	5113	7319																			8694	2826	2346	10989	3960	3726							
	435	7366	5113	7319													8743	2850	2375	10208	3574	3256	13137	5022	5019	16066	6469	6782							
	485	7366	5113	7319										10839	3886	3636	12659	4786	4732	14480	5686	5827													
	535	7366	5113	7319				10356	3647	3345	14786	5837	6012																						
KSYM 3500	S610	485	7060	4716	6631										17350	7074	7640	19569	8145	8938	24007	10289	11532	28445	12433	14127	32883	14576	16722						
		535	7060	4716	6631	9141	3109	2841	14542	5717	5998	19942	8326	9156	22642	9630	10734	25342	10934	12313	30743	13542	15470												
	S782	385	9068	6051	8505																			10509	3404	2940	13227	4755	4576	16102	6106	6211			
		435	9068	6051	8505													10568	3433	2975	12353	4295	4019	15924	6020	6106	19416	7744	8194						
		485	9068	6051	8505										13123	4667	4469	15342	5739	5766	17561	6810	7064	21999	8954	9658	26359	11098	12253						
	S1057	535	9068	6051	8505				12534	4382	4124	17934	6991	7282	20634	8295	8860	23334	9599	10439	28735	12207	13596	34057	14816	16754									
		435	11963	8036	11323																			13029	4035	3288	16599	5759	5376						
		485	11963	8036	11323													12447	3754	2948	14666	4825	4246	19104	6969	6840	23542	9113	9435						
	S1057	535	11963	8036	11323							15039	5006	4464	17739	6310	6042	20439	7614	7621	25840	10222	10778	31240	12831	13936									
		585	11963	8036	11323				13865	4439	3777	20322	7557	7552	23550	9117	9440	26779	10676	11327	33236	13794	15103												
		635	11963	8036	11323	10861	2988	2021	18469	6662	6469	26077	10337	10917	29881	12174	13141	33685	14011	15365															
		685	11963	8036	11323	14597	4792	4205	23450	9068	9381	32303	13344	14557																					

Spring Return Canted Fail Close Torques

			Spring Torque			Canted Fail Close									Pneumatic Storke Torques (Nm) At Operating Pressure:																	
						3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI					
			ETC	RTC	BTC	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO	BTO	RTO	ETO			
			0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°	0°	45°	90°			
KSYM 5000	S1130	485	13424	9447	13915													19044	5889	4773	24455	8445	7888	29867	11001	11003	35278	13557	14118			
		535	13424	9447	13915							19499	6104	5035	22791	7659	6930	26083	9214	8825	32668	12325	12615	39253	15435	16405	45837	18545	20195			
		585	13424	9447	13915				18067	5428	4211	25940	9147	8743	29877	11006	11009	33813	12866	13274	41686	16584	17806	49559	20303	22338						
		635	13424	9447	13915				23681	8079	7442	32957	12461	12782	37595	14652	15451	42233	16843	18121												
		685	13424	9447	13915	18959	5849	4725	29754	10948	10938	40548	16047	17151	45946	18596	20258															
	S1390	535	17528	11494	16481										18687	5612	4364	21979	7167	6259	28564	10278	10049	35149	13388	13839	41733	16498	17629			
		585	17528	11494	16481							21836	7100	6177	25773	8959	8443	29709	10819	10708	37582	14537	15240	45455	18256	19772						
		635	17528	11494	16481				19577	6032	4876	28853	10414	10216	33491	12605	12885	38129	14796	15555	47405	19177	20894									
		685	17528	11494	16481				25650	8901	8372	36444	14000	14585	41842	16549	17692	47239	19099	20798												
		735	17528	11494	16481	19755	6117	4979	32183	11987	12133	44611	17858	19286																		
	S1800	585	22764	14298	21405													24473	8015	5784	32346	11733	10316	40219	15452	14848	48092	19171	19379			
		635	22764	14298	21405							23617	7610	5292	28255	9801	7961	32893	11992	10631	42169	16373	15970									
		685	22764	14298	21405							31208	11196	9661	36606	13745	12768	42003	16295	15874												
		735	22764	14298	21405				26947	9183	7209	39375	15054	14362	45589	17989	17939															
		785	22764	14298	21405				33941	12487	11234	48117	19183	19394																		
	S2220	635	28070	18844	27269													27587	7446	4767	36863	11827	10106	46139	16209	15445						
		685	28070	18844	27269										31300	9199	6904	36697	11749	10010	47491	16848	16224									
		735	28070	18844	27269							34069	10508	8498	40283	13443	12075	46497	16378	15651												
		785	28070	18844	27269				28635	7941	5370	42811	14637	13530	49899	17985	17610															
		835	28070	18844	27269				36088	11461	9660																					
KSYM 10000	S2500	685	29911	19901	28969							39691	13698	12451	46651	17058	16593	53611	20418	20735	67531	27138	29020	81452	33857	37304	95372	40577	45588			
		735	29911	19901	28969				34195	11045	9181	50222	18782	18719	58235	22650	23488	66249	26519	28256	82276	34255	37794	98303	41992	47332	114329	49728	56869			
		785	29911	19901	28969	24932	6574	3669	43215	15399	14549	61496	24224	25428	70637	28637	30868	79777	33049	36307	98058	41874	47186	116340	50699	58066						
		835	29911	19901	28969	32142	10054	7959	52827	20039	20269	73511	30024	32578	83853	35017	38733	94195	40009	44887	114879	49994	57197									
		885	29911	19901	28969	39796	13749	12514	63031	24965	26342	86267	36182	40170	97885	41790	47084	109503	47398	53997												
		935	29911	19901	28969	47895	17659	17334	73831	30178	32769	99766	42698	48203	112734	48958	55920															
		985	29911	19901	28969	56439	21783	22418	79481	31405	33158	106829	44231	48690																		
	S3000	685	37088	25242	37077							32513	8357	4343	39473	11717	8485	46433	15077	12627	60353	21797	20911	74274	28516	29195	88194	35236	37479			
		735	37088	25242	37077							43045	13441	10611	51058	17309	15380	59072	21178	20149	75098	28914	29686	91125	36651	39224	107151	44387	48761			
		785	37088	25242	37077				36037	10058	6441	54318	18883	17320	63459	23296	22760	72599	27708	28199	90880	36533	39079	109162	45358	49958						
		835	37088	25242	37077				45649	14698	12161	66333	24683	24470	76675	29676	30625	87017	34668	36779	107701	44653	49089									
		885	37088	25242	37077	32619	8408	4406	55854	19624	18233	79090	30841	32061	90708	36449	38975	102326	42058	45889												
		935	37088	25242	37077	40718	12317	9225	66661	24837	24660	92598	37357	40094	105567	43617	47811	118535	49877	55528												
		985	37088	25242	37077	49262	16442	14310	78046	30336	31440	106829	44231	48569	121221	51178	57134	135612	58126	65698												
	S3800	735	46756	39049	61522																65432	15107	5241	81458	22844	14779	97485	30580	24316			
785		46756	39049	61522																62932	13901	3754	81214	22726	14634	99495	31551	25513				
835		46756	39049	61522													67008	15869	6180	77350	20861	12334	98035	30846	24644							
885		46756	39049	61522							69423	17034	7616	81041	22642	14530	92659	28251	21444													
935		46756	39049	61522				56986	11030	215	82921	23550	15649	95889	29810	23366	108856	36070	31083													
985	46756	39049	61522				68378	16529	6995	97161	30424	24124	111553	37371	32689																	

25% Safety factor is recommended | 35% For low temperature



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Spring Return Canted Fail Open Torques

		Spring Torque			Canted Fail Open												Pneumatic Storke Torques (Nm) At Operating Pressure																	
					3 bar / 43,5 PSI			4 bar / 58 PSI			5 bar / 72,5 PSI			5,5 bar / 80 PSI			6 bar / 87 PSI			7 bar / 101,5 PSI			8 bar / 116 PSI			9 bar / 130 PSI								
		ETO	RTO	BTO	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC	BTC	RTC	ETC						
		90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°	90°	45°	0°						
KSYM 5000	S1130	485	8387	9935	24992										8744	4123	4770	10301	5401	7476	13416	7957	12887	16531	10513	18299	19646	13069	23710					
		535	8387	9935	24992							10563	5616	7931	12458	7171	11223	14353	8726	14515	18143	11837	21100	21933	14947	27685	25723	18057	34269					
		585	8387	9935	24992				9739	4940	6499	14271	8659	14372	16537	10518	18309	18802	12378	22245	23334	16096	30118	27866	19815	37991								
		635	8387	9935	24992				12970	7591	12113	18310	11973	21389	20979	14164	26027	23649	16355	30665	28988	20736	39941											
	685	8387	9935	24992	10253	5361	7391	16466	10460	18186	22679	15559	28980	25786	18108	34378	28892	20658	39775															
	S1390	535	10175	11494	29391							8775	4057	3532	10670	5612	6824	12565	7167	10116	16355	10278	16701	20145	13388	23286	23935	16498	29870					
		585	10175	11494	29391							12483	7100	9973	14749	8959	13910	17014	10819	17846	21546	14537	25719	26078	18256	33592	30609	21975	41465					
		635	10175	11494	29391				11182	6032	7714	16522	10414	16990	19191	12605	21628	21861	14796	26266	27200	19177	35542											
		685	10175	11494	29391				14678	8901	13787	20891	14000	24581	23998	16549	29979	27104	19099	35376														
	735	10175	11494	29391	11285	6117	7892	18439	11987	20320	25592	17858	32748	29169	20793	38962																		
	S1800	585	13215	14928	36871										11709	5525	6430	13974	7385	10366	18506	11103	18239	23038	14822	26112	27569	18541	33985					
		635	13215	14928	36871							13482	6980	9510	16151	9171	14148	18821	11362	18786	24160	15743	28062	29499	20125	37338	34839	24506	46614					
		685	13215	14928	36871				11638	5467	6307	17851	10566	17101	20958	13115	22499	24064	15665	27896	30278	20764	38690											
		735	13215	14928	36871				15399	8553	12840	22552	14424	25268	26129	17359	31482	29705	20294	37696														
	785	13215	14928	36871	11264	5160	5658	19424	11857	19834	27584	18553	34010	31664	21901	41098	35743	25249	48186															
	S2200	635	16295	18844	46974													15741	7446	8683	21080	11827	17959	26419	16209	27235	31759	20590	36511					
		685	16295	18844	46974							14771	6650	6998	17878	9199	12396	20984	11749	17793	27198	16848	28587	33411	21946	39382								
		735	16295	18844	46974							19472	10508	15165	23049	13443	21379	26625	16378	27593	33779	22248	40021											
		785	16295	18844	46974				16344	7941	9731	24504	14637	23907	28584	17985	30995	32663	21333	38083														
	835	16295	18844	46974				20634	11461	17184	29867	19038	33224	34483	22826	41244																		
S2500	685	17800	19901	48679							15336	6978	7003	23620	13698	20923	27762	17058	27883	31904	20418	34843	40188	27138	48764	48473	33858	62684	56757	40577	76604			
	735	17800	19901	48679							20350	11046	15428	29888	18782	31455	34657	22650	39468	39425	26519	47481	48963	34255	63508	79535	41992	68500	68038	49728	95561			
	785	17800	19901	48679	14838	6574	6165	25717	15399	24447	36596	24224	42728	42036	28637	51869	61009	33049	47476	58355	41874	79291	97572	50699	69235									
	835	17800	19901	48679	19128	10054	13374	31437	20039	34059	43747	30024	54743	49902	35017	65085	56056	40009	75427	96112	49994	68366												
	885	17800	19901	48679	23683	13749	21028	37511	24965	44264	51338	36182	67500	58252	41790	79118	65166	47399	90735															
	935	17800	19901	48679	28503	17659	29127	43937	30178	55063	59371	42698	80998	67088	48958	93966																		
	985	17800	19901	48679	33587	21783	37671	50716	35677	66455	67846	49572	95238	76411	56519	109630																		
	S3000	685	22071	25241	62303							19349	8357	7298	23491	11717	14258	27633	15077	21218	35917	21796	35138	44201	28516	49059	52485	35235	62979					
		735	22071	25241	62303				16079	5704	1803	25617	13441	17830	30386	17309	25843	35155	21177	33857	44692	28914	49883	54230	36650	65910	63767	44387	81936					
		785	22071	25241	62303				21446	10058	10822	32325	18883	29104	37765	23295	38245	43204	27708	47385	54083	36533	65667	64963	45357	83948	75842	54182	102230					
835		22071	25241	62303				27166	14698	20434	39476	24683	41119	45631	29675	51461	51785	34668	61803	64095	44653	82488	76404	54637	103172									
885		22071	25241	62303	19412	8408	7403	33239	19624	30639	47067	30841	53875	53981	36449	65493	60895	42057	77111	74722	53274	100346												
935		22071	25241	62303	24231	12318	15502	39666	24837	41438	55100	37357	67374	62817	43617	80342	70534	49877	93309															
985	22071	25241	62303	29316	16442	24046	46445	30336	52830	81614	44231	63575	91983	51178	76163	102351	58125	88751																
S3800	735	27825	39049	103380																			38938	15107	8806	48476	22844	24833	58013	30580	40859			
	785	27825	39049	103380																37451	13901	6307	48331	22726	24588	59210	31551	42870	70090	40376	61151			
	835	27825	39049	103380													39877	15868	10384	46031	20861	20725	58431	30846	41409	70650	40831	62094	82960	50816	82778			
	885	27825	39049	103380							41314	17034	12798	48228	22642	24416	55142	28251	36034	68970	39467	59269	82797	50684	82505	96625	61900	105740						
	935	27825	39049	103380							49347	23550	26297	57064	29810	39264	64781	36070	52231	80216	48590	78166	95650	61109	104102									
	985	27825	39049	103380							40692	16530	11753	57821	30424	40537	66386	37371	54928	74951	44319	69320	92080	58213	98103									

25% Safety factor is recommended | 35% For low temperature



Quifer Actuators, SL.
is Spanish producer
of pneumatic and hydraulic actuators since 1975. Quifer Actuators has a big experience manufacturing, rack and pinion aluminum pneumatic actuators, rotary ductile Iron pneumatic actuators, scotch yoke pneumatic actuators, scotch yoke hydraulic actuators, electro-hydraulics actuators, manual gearboxes, declutch-able gearboxes limit switches, couplings and accessories for any a quarter turn valves as plug valves, ball vales or butterfly valves. Quifer Actuators has a design technician department with extensive experience and has over 30 years creating its own products and evolving existing products

