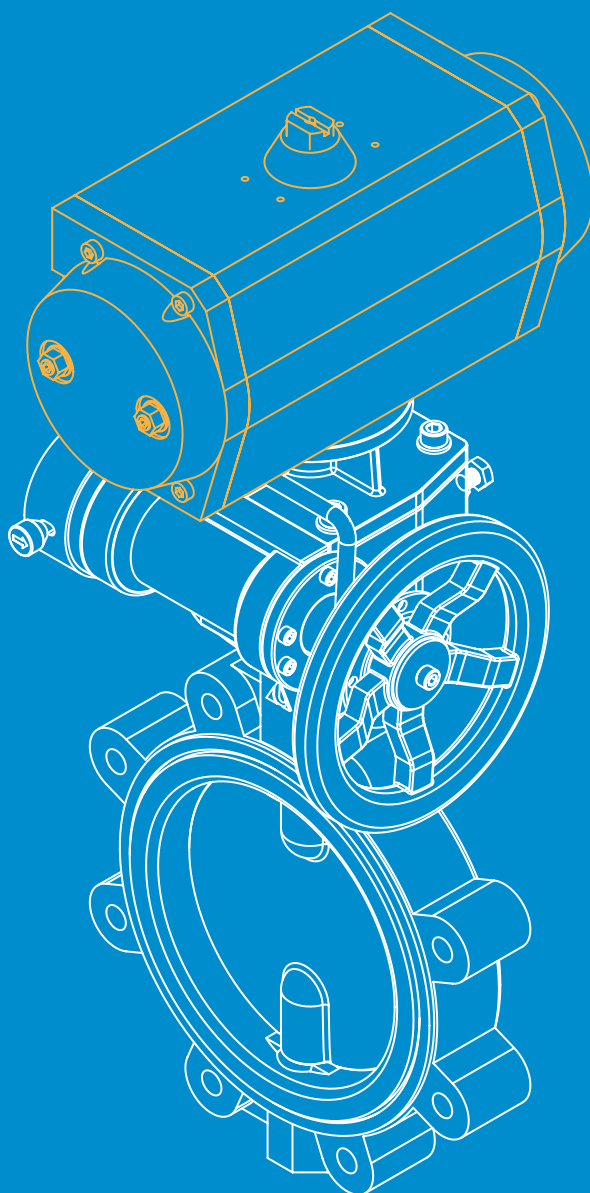




THE BEST WAY TO AUTOMATE
YOUR PROCESS



MT Series Technical Brochure

Rack&Pinion Actuators

OUR BRANDS

Max-Air
A Brand of Emme Technology.

MaxElectric
A Brand of Emme Technology.

DeltaT
A Brand of Emme Technology.

SESTO VALVES
A Brand of Emme Technology.

MADE IN ITALY

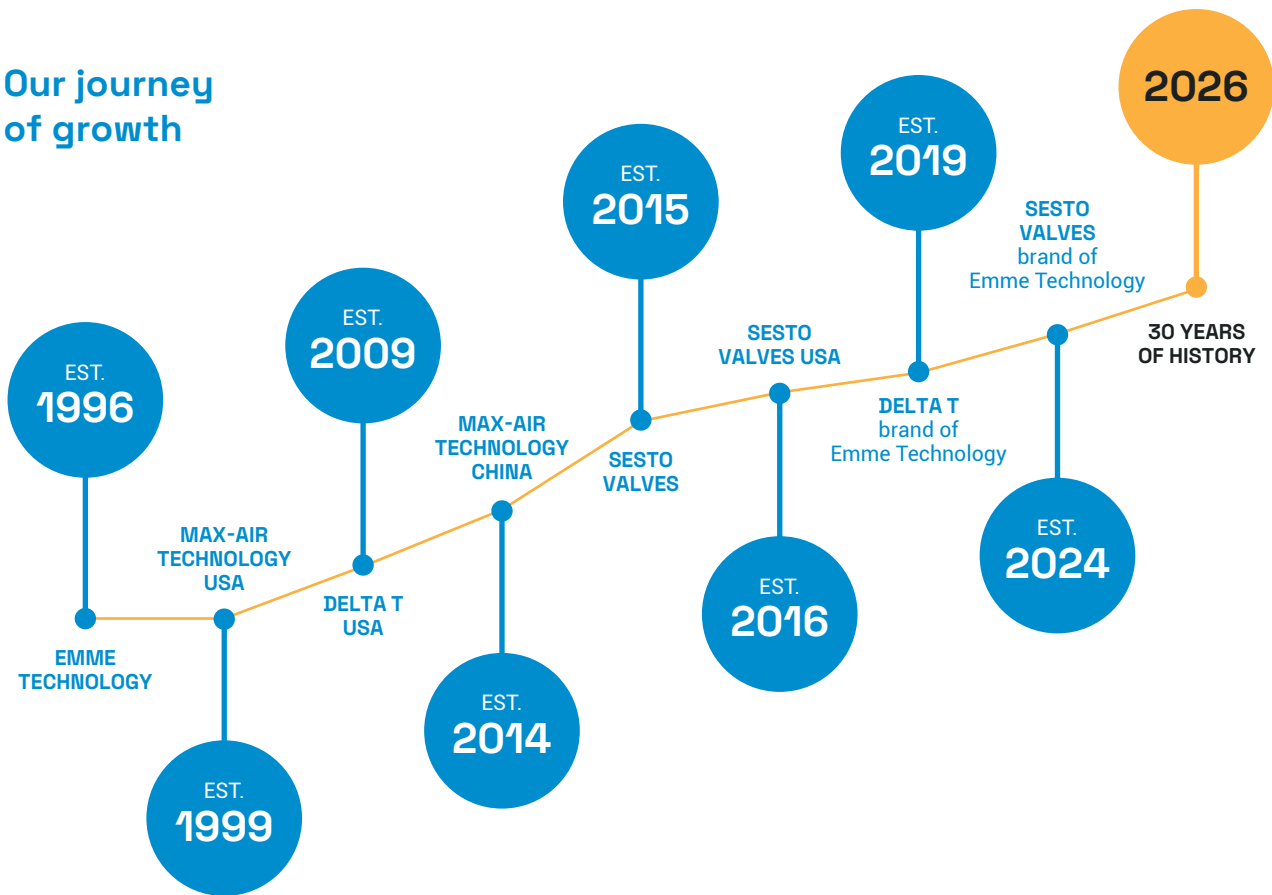
A partner you can count on

Excellence, quality, and innovation define **"Made in Italy."** With its Max-Air, Sesto Valves, and Delta T brands, Emme Technology has been a leading market player for nearly thirty years, offering reliable, robust, and safe solutions.

Thousands of companies worldwide, including major global multinationals in sectors such as Oil & Gas, Energy, Water Treatment, Food & Beverage, Chemical, Petrochemical, Pharmaceutical, and Cosmetics, place their trust in Emme Technology and consistently express high levels of satisfaction.



Our journey of growth



Three decades of achievement

In 1996, in the heart of the engineering district of Sesto San Giovanni, north of Milan, Emme Technology's activities took off. From the beginning, Emme Technology focused on quality and innovation, launching a special line of quarter-turn **pneumatic actuators** made of **techno-polymer**. This was soon complemented by a complete line of **aluminum pneumatic actuators** with a patented design, whose innovative and cutting-edge features became a standard in the automation industry.

The quality of the products and the potential of international markets led Emme Technology to take a significant leap in 1999 by opening Max-Air Technology Inc. in the USA. The U.S. proved to be very receptive to "**Made in Italy**" technology, resulting in rapid growth in distribution, service, and sales activities for actuators, accessories, and solutions for industrial automation under the Max-Air brand.

Over the next two decades, the company expanded further, with Delta T and Sesto Valves joining the Group. In 2015, the Max-Air brand entered the Chinese market with the opening of the subsidiary Max-Air Technology Co. Ltd. Recently, Emme Technology has taken a step toward consolidation by directly integrating the Delta T and Sesto Valves businesses into two internationally recognized brands known for quality, innovation, and reliability.

Today, Emme Technology is a respected player in the market, appreciated for the quality and completeness of its offerings. Emme Technology provides a wide range of **rack-and-pinion** and **scotch yoke actuators**, integrating extensive experience gained from thousands of applications worldwide across various fields.

Where We Are

**With
our products
and services, we are
a global benchmark.**

ITALY

Headquarters, marketing and sales, planning/research and development, production of actuators, limit switch boxes, ball valves, and solenoid valves.

USA

Marketing and sales management, design of butterfly valves and electric actuators, research and development, technical support.

CHINA

Procurement, quality control, assembly.



U.S. Subsidiary

MAX-AIR TECHNOLOGY INC.

Wentzville - MO (USA)

info@maxairtech.com



Headquarters

EMME TECHNOLOGY S.R.L.

Agrate Brianza - MB (Italy)
sales@emmetech.com



Asian Subsidiary

MAX-AIR TECHNOLOGY CO. LTD

Jinan - Shandong (China)
sales@maxairasia.com

MADE IN ITALY

Features

- The MAX-AIR rack & pinion pneumatic actuator provides linear torque output in a compact design utilizing the same body and end caps for double acting and spring return units.
- Namur VDI/VDE 3845 and ISO 5211 dimensions on all sizes. No special interfaces are required to mount solenoid valves, limit switches or positioners.
- The standard angle of rotation is 90°. Additional travel rotations of 120°, 135°, 150° and 180° are available. MT07 and upper sizes feature travel stops with $\pm 10^\circ$ both in open and close directions.
- The female pinion drive is standard with a double square output drive, and optional with a double-D drive, keyed drive and designs to meet your specific requirements.
- The pinion is equipped with spacers that prevent its direct contact with the actuator body.
- The pinion height allows manual override without disturbing the indicated positions.
- External open/closed indicator is standard, available indicators for all the rotations.
- Pistons incorporate double wear pads to separate the rack from the actuator wall and serve as both guide and wear bearings.
- MT series pistons feature a keyway as anti-blowout system.
- All internal and external components are treated to increase corrosion resistance.
- Epoxy coated special steel springs.
- The working pressure is 2 ± 10 Bar. To operate the actuator, it is possible to use filtered compressed air, dry or preferably lubricated, emulsified water, and other compatible hydraulic fluids.
- All external fasteners are corrosion resistant stainless steel.
- All units are lubricated at the factory with non-silicone grease.
- All units are externally labeled with a progressive traceable serial number.
- 100% of all units are factory pressure leak tested, and individually boxed for shipment.

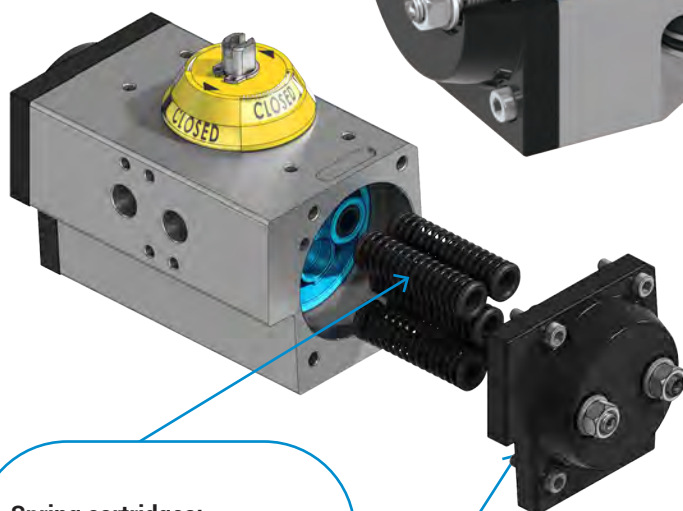
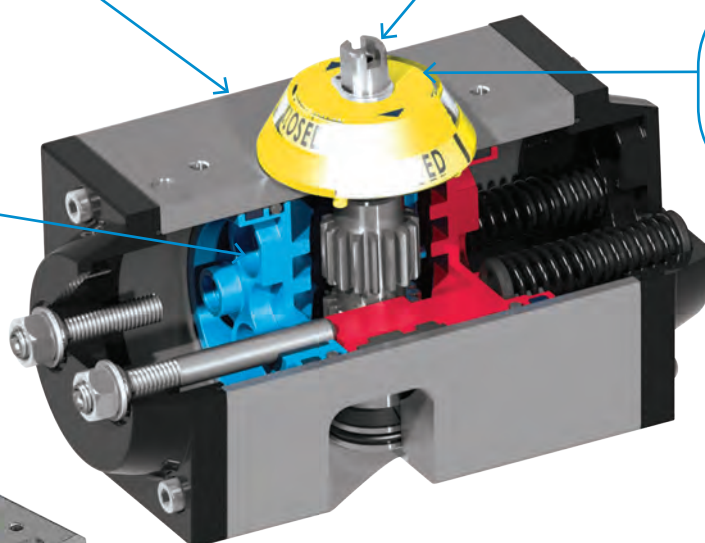
Torque range	Up to 5074 Nm (DA) & 2567 Nm (SR)
Ambient temperature	-20°C +80°C standard (-50°C Low temp., +120°C High temp. / 150°C cyclic)
Rotation	90°-180° +/-10° Adjustment, Spring Return or Double Acting
Operation media	Air, gas or low pressure hydraulic fluid
Mounting	ISO 5211, NAMUR VDI/VDE 3845
Additional option	DD pinions, fast acting, Extended Travel Stops

Body: Extruded aluminium body (6063 or 6005) is internally machined to exact specifications and lapped to reduce friction and to increase the life of seals and skates. All internal and external surfaces are anodized for corrosion resistance. Options: hard anodizing with PTFE coating, epoxy powder coated units, electroless nickel plating.

Pinion: Electroless nickel coated carbon steel Pinion (stainless steel available on request).

Bearing pad:
Techno-polymer
Large contact area
High performance
Long life resistance

Indicator: OPEN/CLOSED
standard in technopolymer.
On request, indicator with
changeable inserts



Spring cartridges:
Spring steel and coated for
corrosion resistance.

End caps and pistons: Die-cast
aluminium pistons are anodized or
epoxy powder coated for corrosion
resistance. Die-cast aluminium end caps
are epoxy powder coated.

Indicators



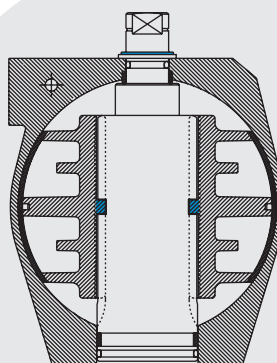
Red/Green



T-Port



L-Port



Anti-blowout system of the pinion

The anti-blowout system of the pinion is ensured thru a double protection: both with an upper c-clip and two keyways casted on the pistons. In case of unusual downward movement of the pinion, the keyways will interfere with the grooves on the pinion, therefore stopping it.

Mounting features

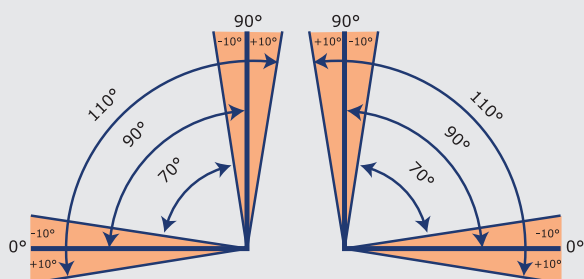
Bi-directional patented travel stop

Max-Air actuators feature a bi-directional travel stop (**International Patent**). Side located stops allow a $\pm 10^\circ$ adjustment - **BEST IN THE MARKET** - in both closing and opening directions, to guarantee a **range of adjustment between 70° and 110° of actuator stroke**.

Travel stops are designed to absorb the maximum rated torque of the actuator and the maximum impact load associated with recommended speed stroke.

To increase pistons resistance both travel stops arrest the pistons in their part with the largest mass of material. Adjustment of the counter clockwise and clockwise rotation is accomplished by turning the respective left (MAX) and right stop (0°) adjustment screws to increase or reduce rotation.

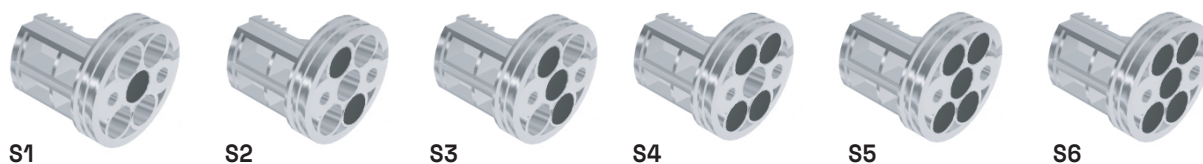
OPTIONAL: extended travel stops for **FULL STROKE** adjustment



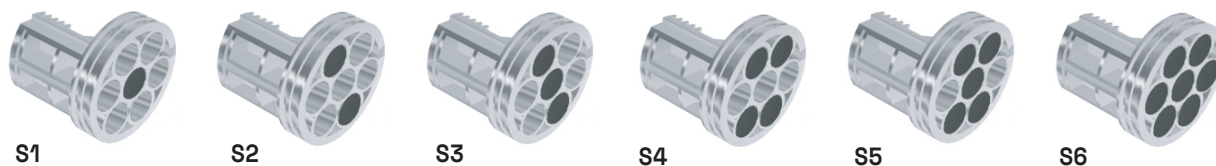
Available extended travel stops for **FULL STROKE** adjustment



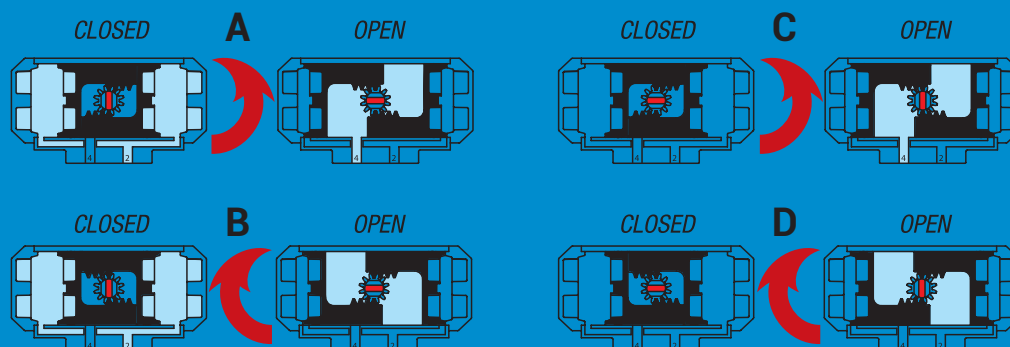
Spring assembly right piston



Spring assembly left piston



Mounting Variations



Special options



17 Different Sizes Available

With 50% more actuator sizes than the competitors, the MT Series can better match valve torques and reduce oversizing. This saves valuable space, reduces overall weight, and eliminates unnecessary cost.

Temperature Seal Options

Seals	Temperature range
SILICONE - Low temperature	- 50°C + 80°C
BUNA-N - Standard temperature	- 20°C + 80°C
VITON - High temperature	-20°C + 120°C (150°C cyclic)



Applications to
different temperature

Special coatings

Stainless steel actuators

Suitable for solution with requested high corrosion resistance properties.

Special coatings as Norsok and C5M

Suitable for aggressive and marine environments.

Anodized with PTFEcoating

Suitable for solution with requested corrosion resistance properties. It is approved for food contact.

Anodized with epoxy coating

Suitable for low concentrations of caustic washdown solution, but not for high acids and alkali environments.

Anodized (Standard)

Not recommended for Highly acidic or basic environments



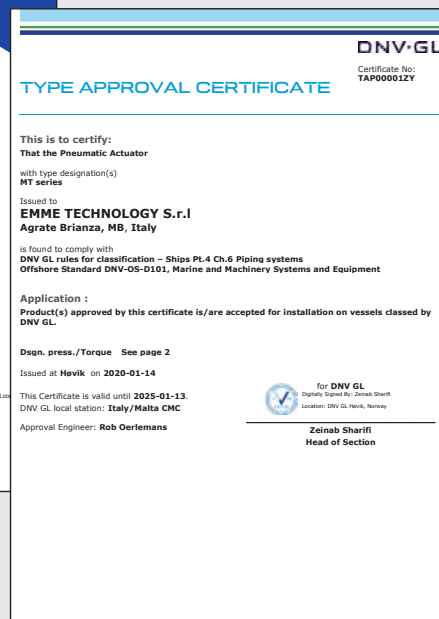
Certifications & Approvals



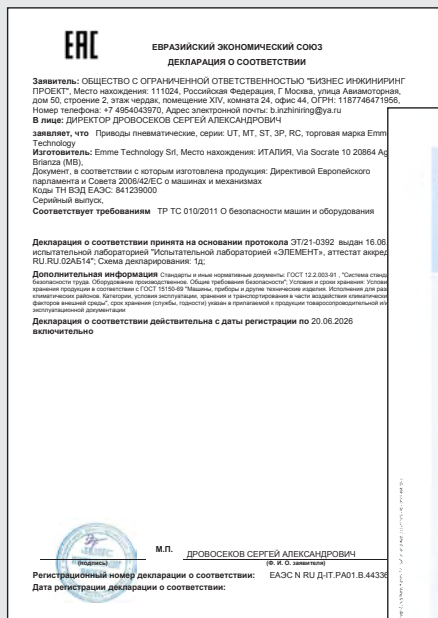
SIL3



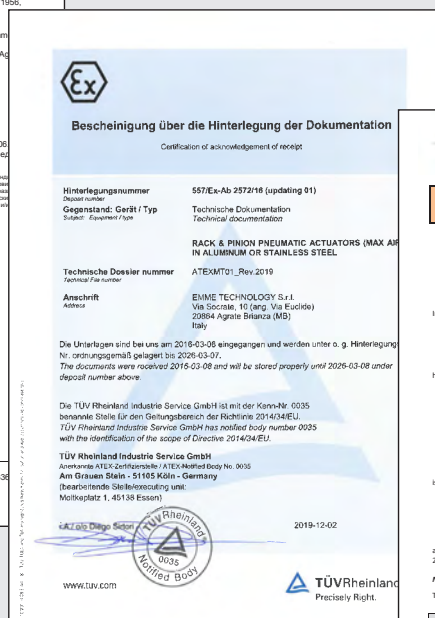
ISO 9001:2015



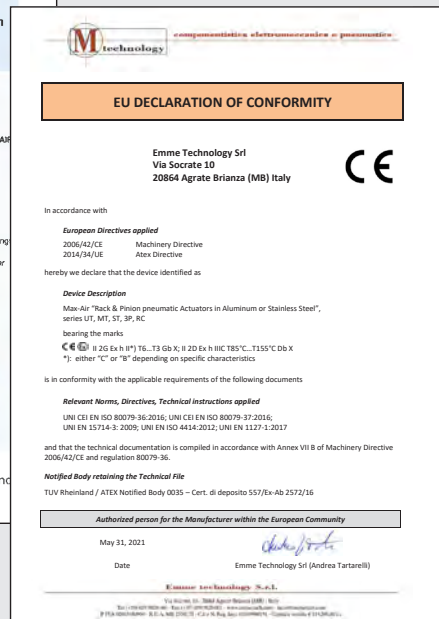
DNV



EAC



DEPOSIT



ATEX

Double Acting actuator sizing

Rack & Pinion actuator produces a constant torque output that depends on the internal diameter and the air supply pressure: increasing one or both factors, torque increases.

Valve's operation torque is not constant but presents a trend different depending on valve's type.

Prior to sizing it's necessary to obtain the following information and data:

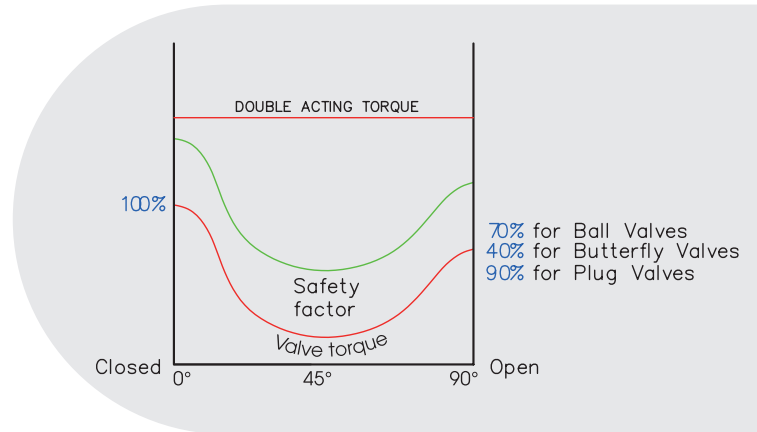
- Type of valve and rated torque
- Air supply pressure

The sizing is as follows:

1. Define the maximum torque of the valve to automate, increasing to 5% ÷ 50% the rated torque of the valve (according to the type of valve working conditions).

2. Once the necessary torque value is set, with the torque chart, find the least exceeding torque value in correspondence with the air supply pressure column.

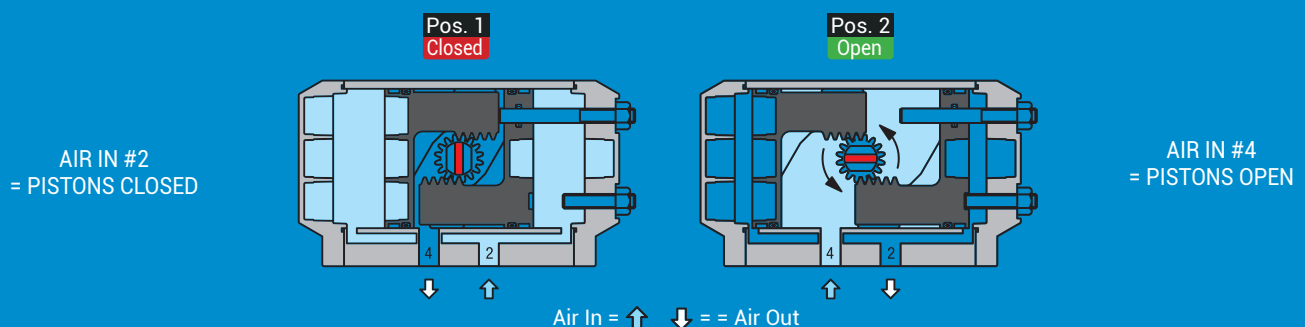
3. Once the torque value is set, the left column of the torque summary table will show the required model size.



Double acting actuators torque chart in nm

Tipo	2 Bar	3 Bar	4 Bar	5 Bar	5,62 Bar	6 Bar	7 Bar	8 Bar	9 Bar	10 Bar
MT03	2,67	4	5,34	6,67	7,5	8,04	9,38	10,72	12,06	13,4
MT05	5	7,6	10,1	12,6	14,1	15,1	17,6	20,2	22,7	25,2
MT07	8,3	12,5	16,6	20,8	23,4	25	29,2	33,3	37,5	41,7
MT15	11	16,5	22	27,5	30,9	33	38,5	44	49,5	55
MT17	14,5	21,7	29	36,2	40,6	43,5	50,7	58	65,2	72,5
MT20	20	30	40	50	56,5	60	70	80	90	100
MT25	30,2	45,3	60,4	75,5	84,5	90,6	105,7	120,8	135,9	151
MT30	40	60,3	80,4	100,5	112,7	120,6	140,7	160,8	180,9	201
MT35	64,4	96,6	128,8	161,1	180,4	193,3	225,5	257,7	289,9	322,1
MT40	80,6	120,9	161,2	201,5	225,7	241,8	282,2	322,5	362,8	403,1
MT45	125,8	188,7	251,6	314,5	352,7	377,4	440,3	503,2	566,1	629
MT50	181,2	271,8	362,4	453	509,2	543,6	634,2	724,8	815,4	906
MT55	241,6	362,3	483,1	603,9	676,4	724,7	845,5	966,3	1087,1	1207,8
MT60	366,4	549,6	732,8	916	1029,6	1099,2	1282,4	1465,6	1648,8	1832
MT65	483,2	724,8	966,4	1208	1357,8	1449,6	1691,2	1932,8	2174,4	2416
MT70	946	1419	1892	2365	2658	2838	3311	3784	--	--
MT75	1268	1903	2537	3171	3564	3805	4439	5074	--	--

Operation: Double Acting



Spring return actuator sizing

The spring return actuator has a decreasing torque output throughout the stroke. During the opening phase, the torque decreases because the springs are compressed and working against the piston's stroke, absorb energy. In the closing phase instead, the springs release this energy.

So the torque is stated with 4 values:

- Opening Start/Pos. 2
- Opening End/Pos. 2
- Close Start/Pos. 1
- Close End/Pos. 1

To size and choose an actuator, proceed as follows:

1. To determine the needed torque, increase of 25% ÷ 50%, depending on the type of the valve and working conditions, the value of the rated valve torque.
2. Using the "Spring return 90°" table, locate the End/Pos. 1 column, with the torque value either exact or exceeding the needed torque.
3. According to the air pressure supply, locate the End/Pos. 2 column, with the torque value either exact or exceeding the needed torque.

Example:

Ball valve with 25 Nm, fail close.

Safety factor: 30%

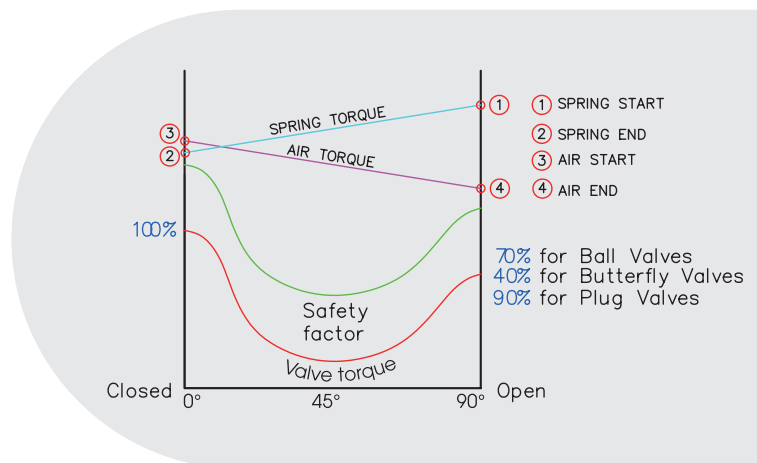
Needed torque: $(25 + 30\%) = 32,5 \text{ Nm}$

Air pressure: 6 bar

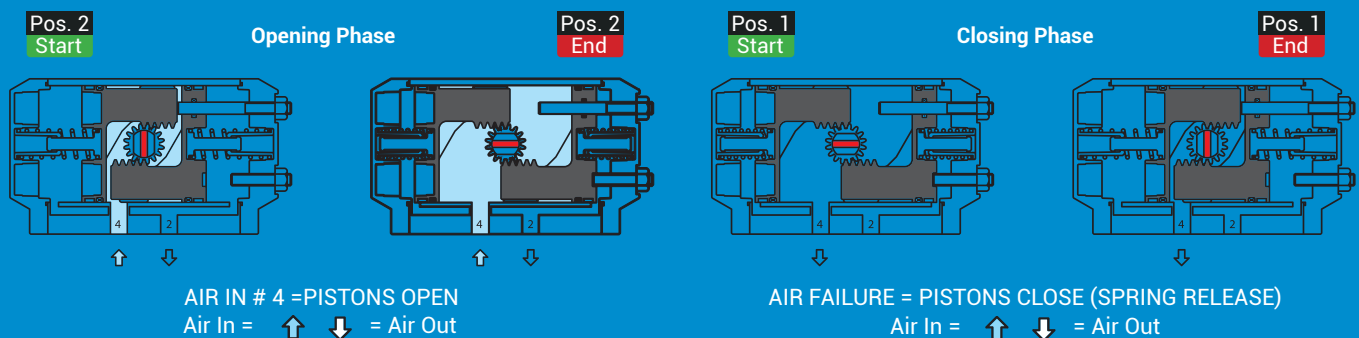
Using the table, find a closing torque value End/Pos. 1, which should be bigger than 32,5 Nm.

The MT25-SR 5X5 gives a closing torque (End/Pos.1) of 34,9 Nm and an opening torque (End/Pos. 2) of 35,2 Nm.

This is the actuator to be chosen.



Operation: Spring Return

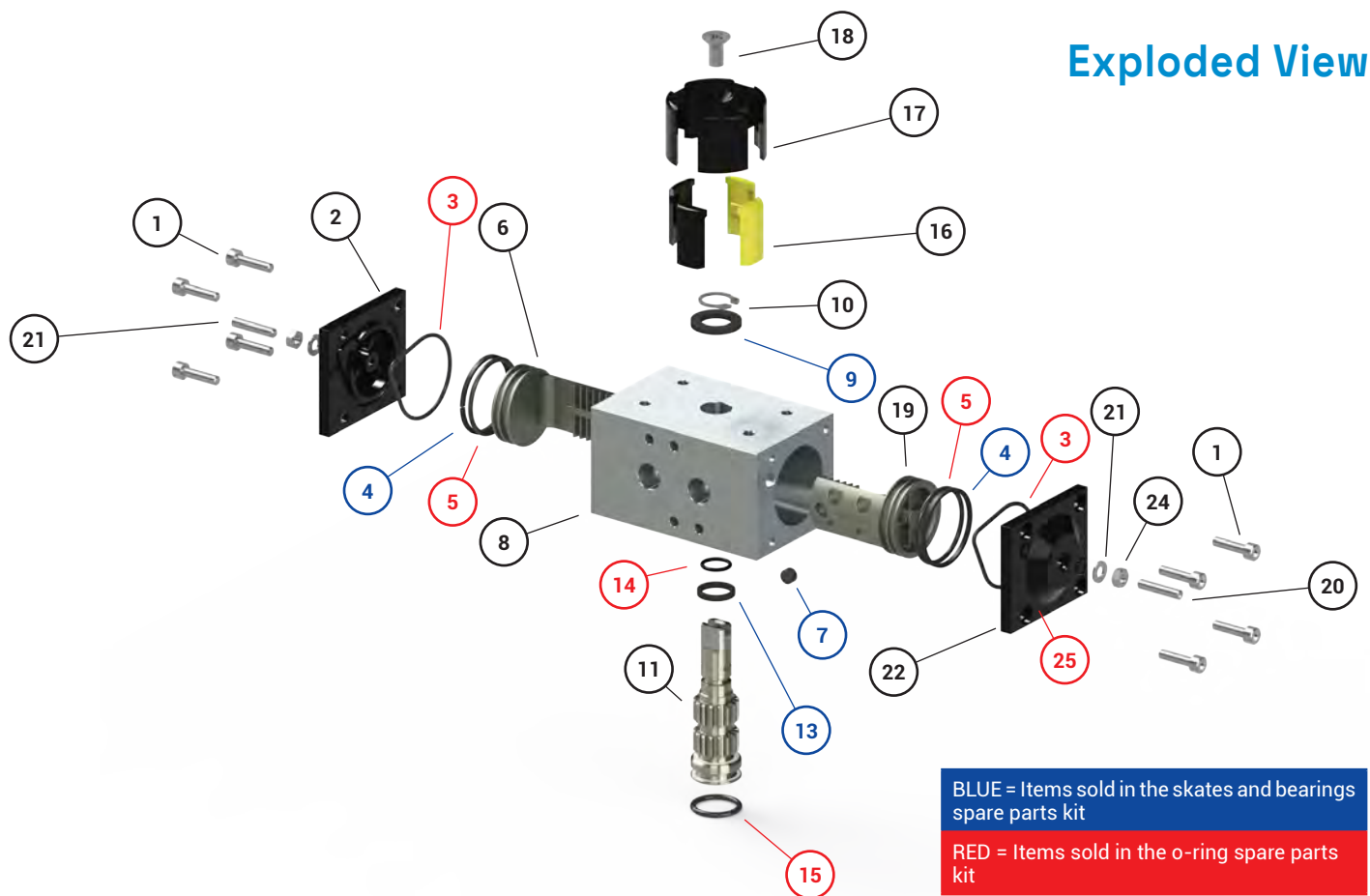


Spring return torque data

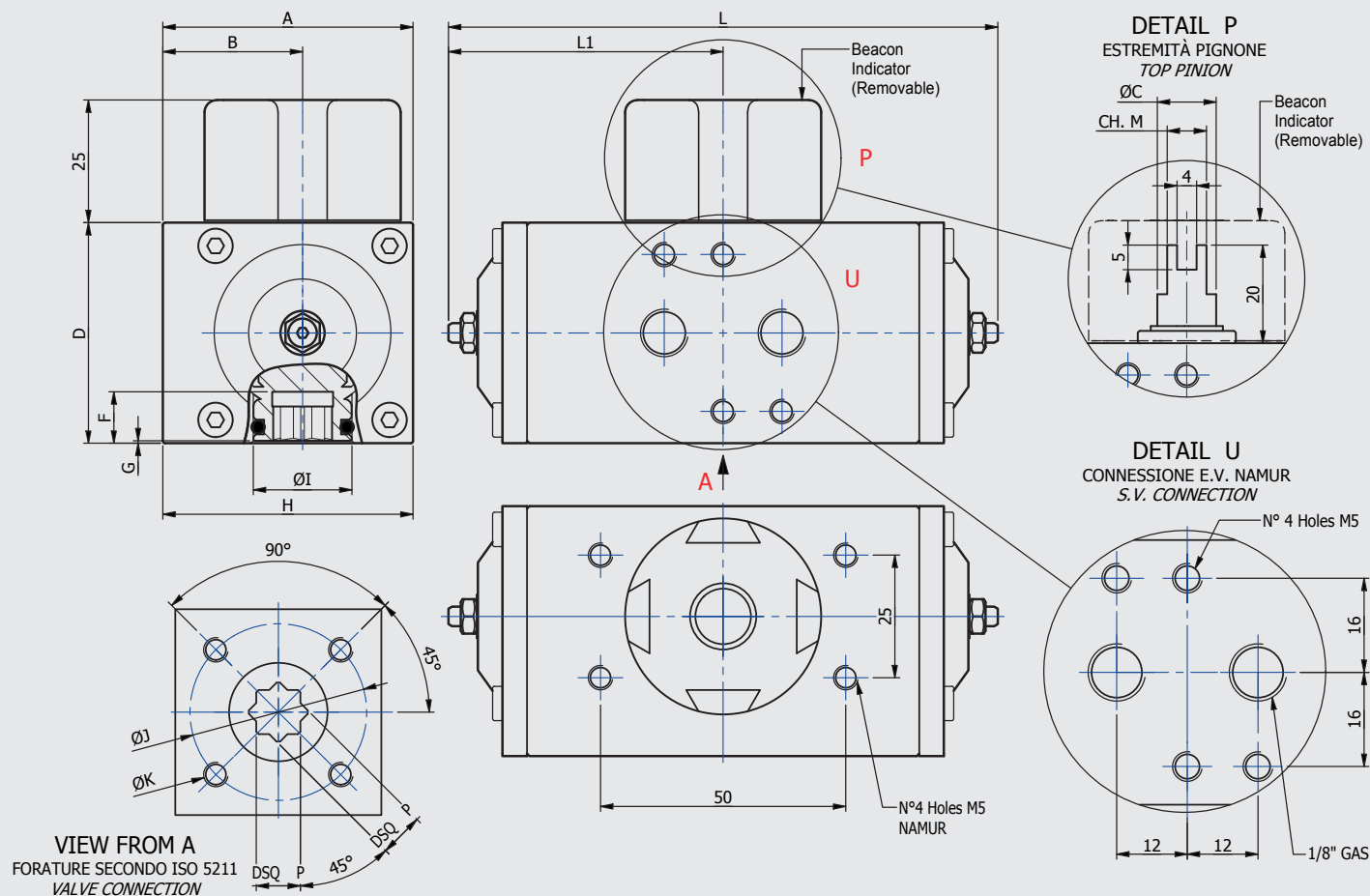
POS 2 opening torque

Tipo	SPRINGS	Pos. 1 springs torque		3 Bar		4 Bar		5 Bar		5,62 Bar		6 Bar		7 Bar		8 Bar	
		START	END	START	END	START	END	START	END	START	END	START	END	START	END	START	END
MT05	1+1	3,7	2,5	5,1	3,9	7,6	6,4	10,1	8,9	11,6	10,4	12,6	11,4	15,1	13,9	17,7	16,5
	2+2	7,4	5	2,6	0,2	5,1	2,7	7,6	5,2	9,1	6,7	10,1	7,7	12,6	10,2	15,2	12,8
	3+3	11,2	7,5	--	--	--	--	5,1	1,5	6,6	3	7,6	4	10,1	6,5	12,7	9,1
MT07	1+1	3,7	2,3	10,2	8,8	14,3	12,9	18,5	17,1	21,1	19,7	22,7	21,3	26,9	25,5	31	29,6
	2+2	7,4	4,6	7,9	5,1	12	9,2	16,2	13,4	18,8	16	20,4	17,6	24,6	21,8	28,7	25,9
	3+3	11,1	6,9	5,6	1,4	9,7	5,5	13,9	9,7	16,5	12,3	18,1	13,9	22,3	18,1	26,4	22,2
	4+4	14,8	9,2	--	--	7,4	1,8	11,6	6	14,2	8,6	15,8	10,2	20	14,4	24,1	18,5
MT15	5+5	18,5	11,5	--	--	--	--	9,3	2,3	11,9	4,9	13,5	6,5	17,7	10,7	21,8	14,8
	2+2	8,4	6	10,5	8,1	16	13,6	21,5	19,1	24,6	22,5	27	24,6	32,5	30,1	38	35,6
	3+3	12,6	9,1	7,4	3,9	12,9	9,4	18,4	14,9	21,8	18,3	23,9	20,4	29,4	25,9	34,9	31,4
	4+4	16,9	12,1	--	--	9,9	5,1	15,4	10,6	18,8	14	20,9	16,1	26,4	21,6	31,9	27,1
	5+5	21,1	15,1	--	--	6,9	0,9	12,4	6,4	15,8	9,8	17,9	11,9	23,4	17,4	28,9	22,9
MT17	7+5	25,3	18,1	--	--	--	--	9,4	2,2	12,8	5,6	14,9	7,7	20,4	13,2	25,9	18,7
	2+2	10,5	7,2	14,5	11,2	21,8	18,5	29	25,7	33,4	30,1	36,3	33	43,5	40,2	50,8	47,5
	3+3	15,7	10,8	10,9	6	18,2	13,3	25,4	20,5	29,8	24,9	32,7	27,8	39,9	35	47,2	42,3
	4+4	20,9	14,4	7,3	0,8	14,6	8,1	21,8	15,3	26,2	19,7	29,1	22,6	36,3	29,8	43,6	37,1
	5+5	26,1	18,1	--	--	10,9	2,9	18,1	10,1	22,5	14,5	25,4	17,4	32,6	24,6	39,9	31,9
MT20	7+5	31,4	21,7	--	--	--	--	14,5	4,8	18,9	9,2	21,8	12,1	29	19,3	36,3	26,6
	2+2	13,8	10,4	19,6	16,2	29,6	26,2	39,6	36,2	46,1	42,7	49,6	46,2	59,6	56,2	69,6	66,2
	3+3	20,8	15,6	14,4	9,2	24,4	19,2	34,4	29,2	40,9	35,7	44,4	39,2	54,4	49,2	64,4	59,2
	4+4	27,7	20,8	9,2	2,3	19,2	12,3	29,2	22,3	35,7	28,8	39,2	32,3	49,2	42,3	59,2	52,3
	5+5	34,6	26	--	--	14	5,4	24	15,4	30,5	21,9	34	25,4	44	35,4	54	45,4
MT25	7+5	41,6	31,2	--	--	--	--	18,8	8,4	25,3	14,9	28,8	18,4	38,8	28,4	48,8	38,4
	2+2	22,1	14	31,3	23,2	46,4	38,3	61,5	53,4	70,5	62,4	76,6	68,5	91,7	83,6	106,8	98,7
	3+3	33,2	20,9	24,4	12,1	39,5	27,2	54,6	42,3	63,6	51,3	69,7	57,4	84,8	72,5	99,9	87,6
	4+4	44,2	27,9	17,4	1,1	32,5	16,2	47,6	31,3	56,6	40,3	62,7	46,4	77,8	61,5	92,9	76,6
	5+5	55,3	34,9	--	--	25,5	5,1	40,6	20,2	49,6	29,2	55,7	35,3	70,8	50,4	85,9	65,5
MT30	7+5	66,3	41,9	--	--	--	--	33,6	9,2	42,6	18,2	48,7	24,3	63,8	39,4	78,9	54,5
	2+2	28,3	21,1	39,2	32	59,3	52,1	79,4	72,2	91,6	84,4	99,5	92,3	119,6	112,4	139,7	132,5
	3+3	42,4	31,6	28,7	17,9	48,8	38	68,9	58,1	81,4	70,3	89	78,2	109,1	98,3	129,2	118,4
	4+4	56,6	42,2	18,1	3,7	38,2	23,8	58,3	43,9	70,5	56,1	78,4	64	98,5	84,1	118,6	104,2
	5+5	70,7	52,7	--	--	27,7	9,7	47,8	29,8	60	42	67,9	49,9	88	70	108,1	90,1
MT35	7+5	84,9	63,2	--	--	--	--	37,3	15,6	49,5	27,8	54,7	35,7	77,5	55,8	97,6	75,9
	2+2	46,5	34,6	62	50,1	94,2	82,3	126,5	114,6	145,8	133,9	158,7	146,8	190,9	179	223,1	211,2
	3+3	69,7	52	44,6	26,9	76,8	59,1	109,1	91,4	128,4	110,7	141,3	123,6	173,5	155,8	205,7	188
	4+4	93	69,3	27,2	3,6	59,5	35,8	91,8	68,1	111,1	87,4	124	100,3	156,2	132,5	188,4	164,7
	5+5	116,2	86,6	--	--	42,2	12,6	74,5	44,9	93,8	64,2	106,7	77,1	138,9	109,3	171,1	141,4
MT40	7+5	139,5	104	--	--	--	--	57,1	21,6	76,4	40,9	89,3	53,8	121,5	86	153,7	118,2
	2+2	57	41,9	79	63,9	119,3	104,2	159,6	144,5	183,8	168,7	199,9	184,8	240,3	225,2	280,6	265,5
	3+3	85,5	62,8	58,1	35,4	98,4	75,7	138,7	116	162,9	140,2	179	156,3	219,4	196,7	259,7	237
	4+4	114,1	83,7	37,2	6,8	77,5	47,1	117,8	87,4	142	111,6	158,1	127,7	198,5	168,1	238,8	208,4
	5+5	142,6	104,7	--	--	56,5	18,6	96,8	58,9	121	83,1	137,1	99,2	177,5	139,6	217,8	179,9
MT45	7+5	171,1	125,6	--	--	--	--	75,9	30,4	100,1	54,6	116,2	70,7	156,6	111,1	196,9	151,4
	2+2	100,4	63,1	125,6	88,3	188,5	151,2	251,4	214,1	289,6	252,3	314,3	277	377,2	339,9	440,1	402,8
	3+3	150,6	94,7	94	38,1	156,9	101	219,8	163,9	258	202,1	282,7	226,8	345,6	289,7	408,5	352,6
	4+4	200,8	126,2	--	--	125,4	50,8	188,3	113,7	226,5	151,9	251,2	176,6	314,1	239,5	377	302,4
	5+5	251	157,8	--	--	--	--	156,7	63,5	194,9	101,7	219,6	126,4	282,5	189,3	345,4	252,2
MT50	7+5	301,2	189,3	--	--	--	--	125,2	13,3	163,4	51,5	188,1	76,2	251	139,1	313,9	202
	2+2	124,3	98,1	173,7	147,5	264,3	238,1	354,9	328,7	411,1	384,9	445,5	419,3	536,1	509,9	626,7	600,5
	3+3	186,5	147,2	124,6	85,3	215,2	175,9	305,8	266,5	362	322,7	396,4	357,1	487	447,7	577,6	538,2
	4+4	248,6	196,2	--	--	166,2	113,8	256,8	204,4	313	260,6	347,4	295	438	385,6	528,6	476,2
	5+5	310,8	245,3	--	--	117,1	51,6	207,7	142,2	263,9	198,4	298,3	232,8	388,9	323,4	479,5	414
MT55	7+5	372,9	294,3	--	--	--	--	158,7	80,1	214,9	136,3	249,3	170,7	339,9	261,3	430,5	351,9
	2+2	167,9	119,1	243,2	194,4	364	315,2	484,8	436	557,3	508,5	605,6	556,8	726,4	677,6	847,2	798,4
	3+3	251,8	178,7	183,6	110,5	304	231,3	425,2	352,1	497,7	424,6	546	472,9	666,8	593,7	787,6	714,5
	4+4	335,7	238,3	124	26,6	244,8	147,4	365,6	268,2	438,1	340,7	486,4	389	607,2	509,8	728	630,6
	5+5	419,7	297,8	--	--	185,3	63,4	306,1	184,2	378,6	256,7	426,8	305	547,7	425,8	668,5	546,6
MT60	7+5	503,6	357,4	--	--	--	--	246,5	100,3	319	172,8	367,3	221,1	488,1	341,9	608,9	462,7
	2+2	242,2	193,1	356,5	307,4	539,7	490,6	722,9	673,8	836,5	787,4	906,1	857	1089,3	1040,2	1272,5	1223,4
	3+3	363,4	289,6	260	186,2	443,2	369,4	626,4	552,6	740	666,2	812,6	735,8	992,8	919	1176	1102,2
	4+4	484,5	386,2	163,4	65,1	346,6	248,3	529,8	431,5	643,4	545,1	713	614,7	896,2	797,9	1079,4	981,1
	5+5	605,6	482,7	--	--	250,1	127,2	433,3	310,4	546,9	424	616,5	493,6	799,7	676,8	982,9	860
MT65	7+5	726,6	579,3	--	--	153,5	6,2	336,7	189,4	450,3	303	519,9	372,6	703,1	555,8	886,3	739
	2+2	317,1	235,2	489,6	404,7	731,2	649,3	972,8	890,9	1122,6	1040,7	1214,4	1132,5	1456,6	1374,1	1697,6	1615,5
	3+3	475,7	352,8	372	249,1	613,6	490,7	855,2	732,3	1005	882,1	1096,8	973,9	1338,4	1215,5	1580	1457,1

MT03 Technical Data



	ACTUATOR PARTS	MATERIALS
1	END CAP BOLTS	AISI 304 STAINLESS STEEL
2	LEFT END CAP	DIE CAST ALUMINUM EPOXY
3	END CAP O RING	BUNA-N
4	PISTON WEAR BEARING	TECHNOPOLIMER
5	PISTON O RING	BUNA-N
6	LEFT PISTON	ANODIZED ALUMINUM
7	PISTON SKATE	TECHNOPOLIMER
8	ACTUATOR BODY	EXTRUDED ALUMINUM (6063 O 6005)
9	UPPER PINION WASHER	TECHNOPOLIMER
10	PINION SNAP RING	AISI 304 STAINLESS STEEL
11	PINION	NICKEL PLATED CARBON STEEL
12		
13	UPPER PINION BEARING	TECHNOPOLIMER
14	UPPER PINION O RING	BUNA-N
15	LOWER PINION BEARING	BUNA-N
16	INDICATOR INSERT	TECHNOPOLIMER
17	INDICATOR	TECHNOPOLIMER
18	INDICATOR SCREW	AISI 304 STAINLESS STEEL
19	RIGHT PISTON	ANODIZED ALUMINUM
20	TRAVEL STOP	AISI 304 STAINLESS STEEL
21	TRAVEL STOP	AISI 304 STAINLESS STEEL
22	RIGHT END CAP	DIE CAST ALUMINUM EPOXY
23	TRAVEL STOP WASHERS	AISI 304 STAINLESS STEEL
24	TRAVEL STOP NUTS	AISI 304 STAINLESS STEEL
25	TRAVEL STOP O RING	BUNA-N



Only available in Double Acting configuration, and with Standard Buna-N Seals (-4°F to 176°F).

Dimensions

												ISO CONNECTION						
	A	B	ØC	D	E	F	G	H	ØI	L	L1	M	ØJ	K	ØW	X	DSQ P	ISO 5211
MT03	51	29	12	45	45	10,5	0,5	51	20,1	112	56	8	36	M5x6	-	-	9	F03

Air consumption

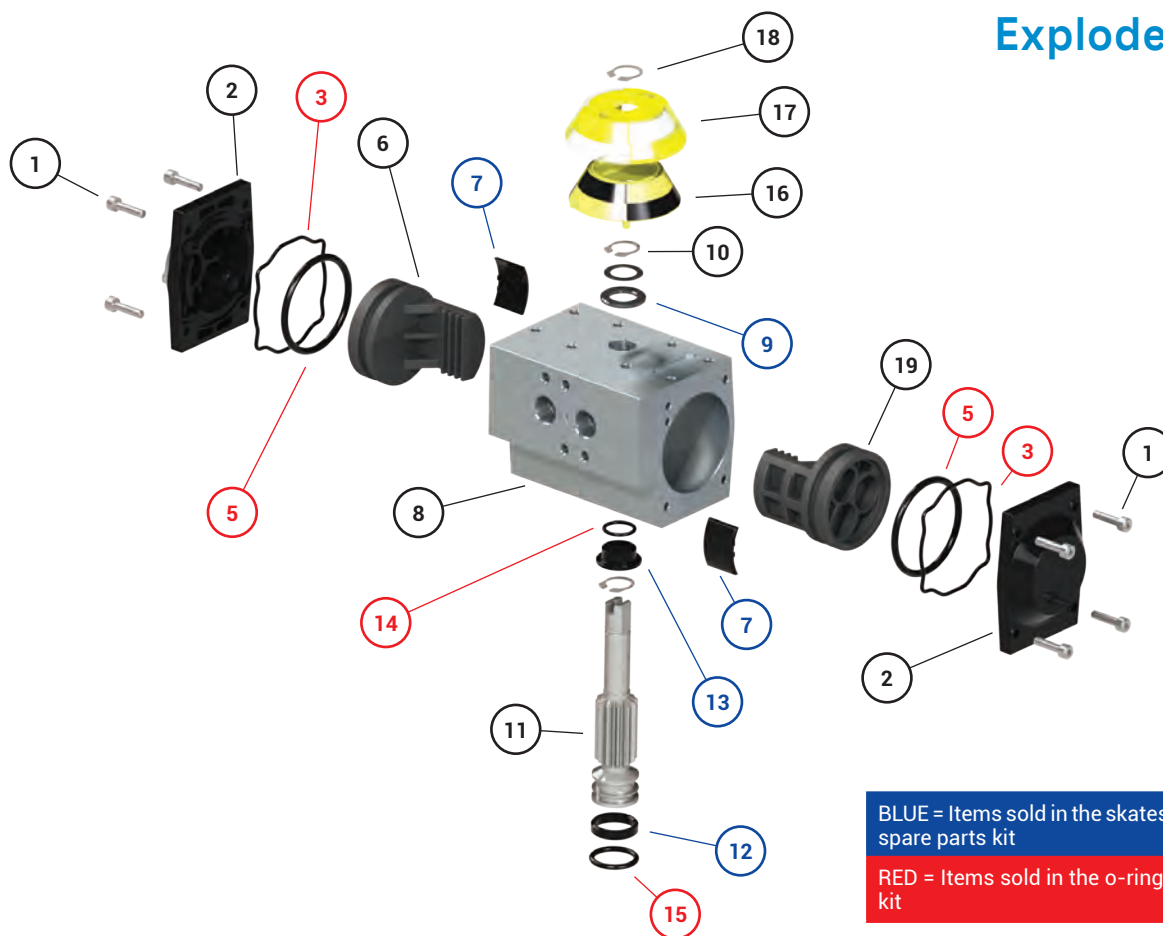
MT05		
DA	N Lt	0,05
	Cu-In	3,05

Weight

MT05		
Kg	0,47	0,47
In Lbs	1,04	1,04

MT05 Technical Data

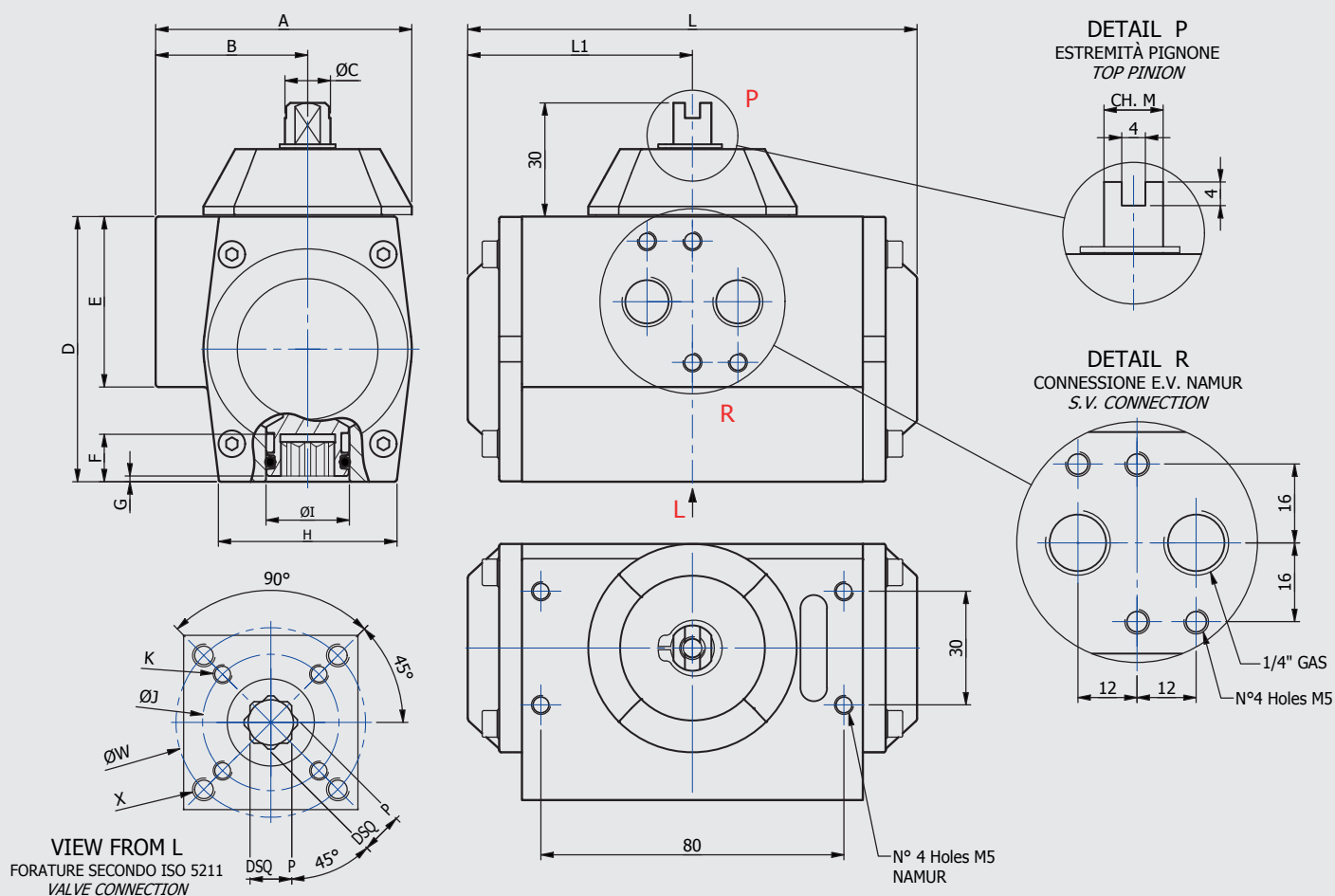
Exploded View



BLUE = Items sold in the skates and bearings spare parts kit

RED = Items sold in the o-ring spare parts kit

	ACTUATOR PARTS	MATERIALS
1	END CAP BOLTS	AISI 304 STAINLESS STEEL
2	LEFT END CAP	DIE CAST ALUMINUM EPOXY
3	END CAP O RING	BUNA-N
4		
5	PISTON O RING	BUNA-N
6	LEFT PISTON	ANODIZED ALUMINUM
7	PISTON SKATE	TECHNOPOLIMER
8	ACTUATOR BODY	EXTRUDED ALUMINUM (6063 O 6005)
9	UPPER PINION WASHER	TECHNOPOLIMER
10	PINION SNAP RING	AISI 304 STAINLESS STEEL
11	PINION	NICKEL PLATED CARBON STEEL
12	LOWER PINION BEARING	TECHNOPOLIMER
13	UPPER PINION BEARING	TECHNOPOLIMER
14	UPPER PINION O RING	BUNA-N
15	LOWER PINION BEARING	BUNA-N
16	INDICATOR INSERT	TECHNOPOLIMER
17	INDICATOR	TECHNOPOLIMER
18	INDICATOR SCREW	AISI 304 STAINLESS STEEL
19	RIGHT PISTON	ANODIZED ALUMINUM



Regolazione non disponibile.

Dimensions

													ISO CONNECTION					
	A	B	ØC	D	E	F	G	H	ØI	L	L1	M	ØJ	K	ØW	X	DSQ P	ISO 5211
MT05	68	40	12	70	45	12,5	1,5	47	22	119	59	10	36 42	M5x9 M5x9	50 -	M6x10 -	11	F03/F05 F04

Air consumption

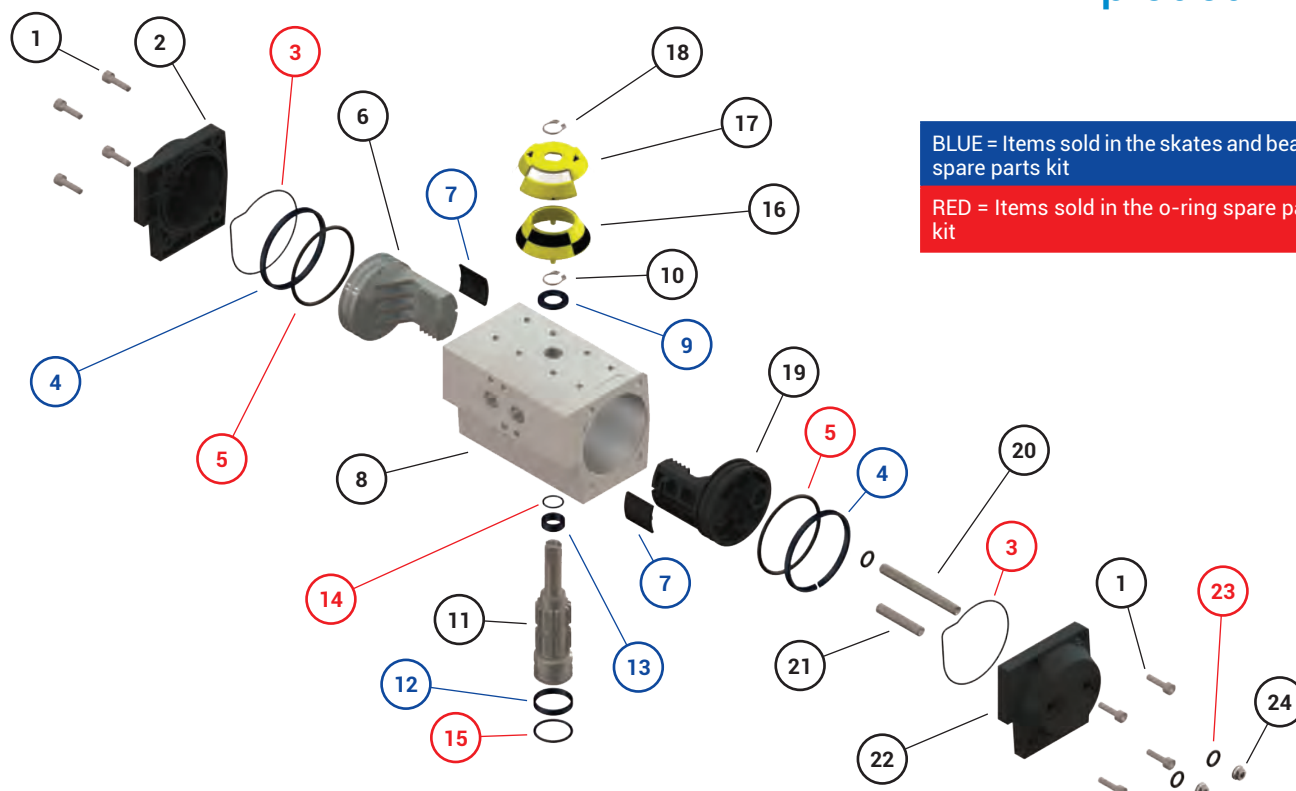
MT05		
DA	N Lt	0,22
	Cu-In	13,50
DA	N Lt	0,13
	Cu-In	8,00

Weight

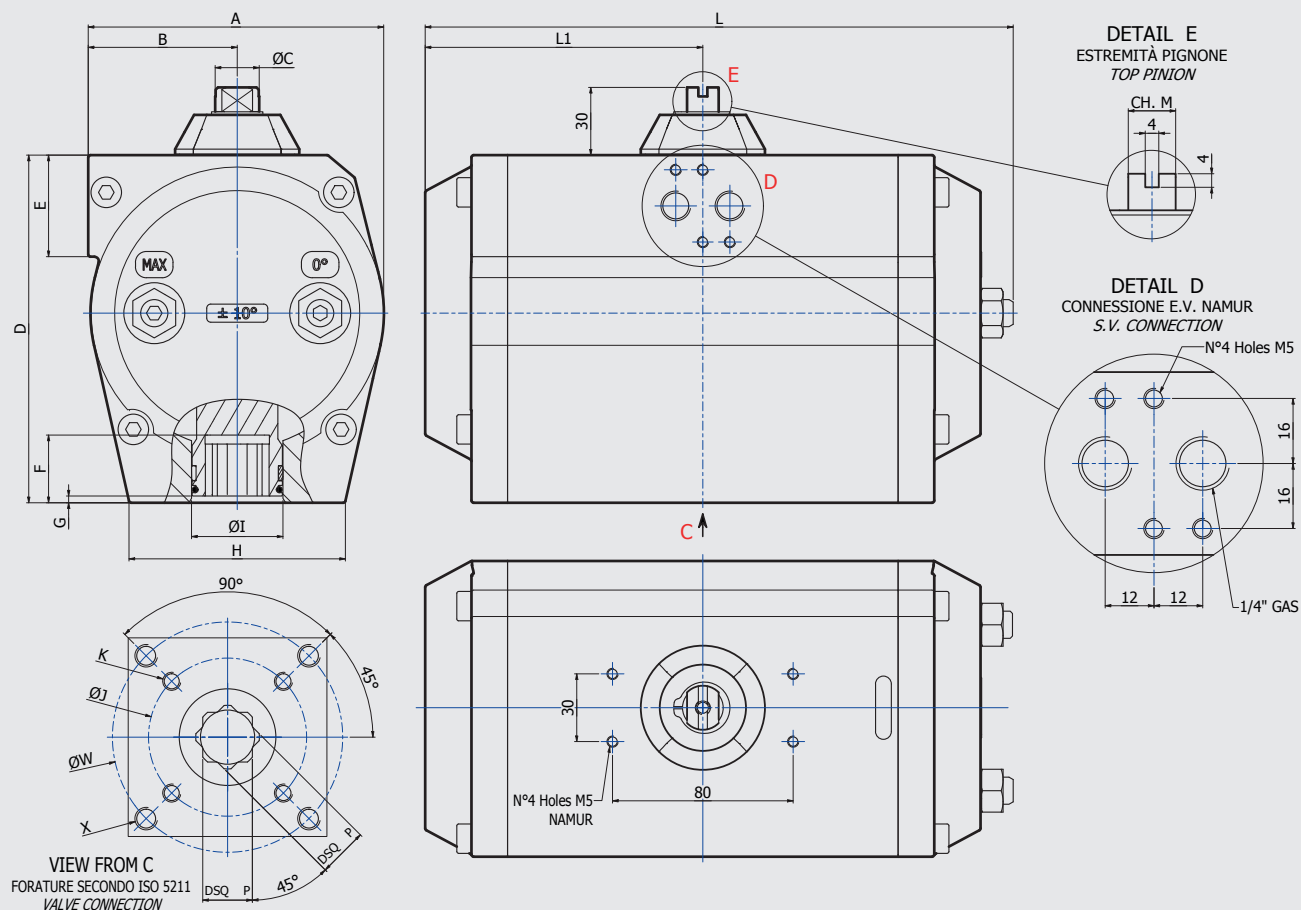
MT05		
DA	N Lt	0,91
	Cu-In	2,00
SR 3X3	N Lt	0,99
	Cu-In	2,18

MT07 - MT65 Technical Data

Exploded View



	ACTUATOR PARTS	MATERIALS
1	END CAP BOLTS	AISI 304 STAINLESS STEEL
2	LEFT END CAP	DIE CAST ALUMINUM EPOXY
3	END CAP O RING	BUNA-N
4	PISTON WEAR BEARING	TECHNOPOLIMER
5	PISTON O RING	BUNA-N
6	LEFT PISTON	ANODIZED ALUMINUM
7	PISTON SKATE	TECHNOPOLIMER
8	ACTUATOR BODY	EXTRUDED ALUMINUM (6063 O 6005)
9	UPPER PINION WASHER	TECHNOPOLIMER
10	PINION SNAP RING	AISI 304 STAINLESS STEEL
11	PINION	NICKEL PLATED CARBON STEEL
12	LOWER PINION BEARING	TECHNOPOLIMER
13	UPPER PINION BEARING	TECHNOPOLIMER
14	UPPER PINION O RING	BUNA-N
15	LOWER PINION BEARING	BUNA-N
16	INDICATOR INSERT	TECHNOPOLIMER
17	INDICATOR	TECHNOPOLIMER
18	INDICATOR SCREW	AISI 304 STAINLESS STEEL
19	RIGHT PISTON	ANODIZED ALUMINUM
20	TRAVEL STOP	AISI 304 STAINLESS STEEL
21	TRAVEL STOP	AISI 304 STAINLESS STEEL
22	RIGHT END CAP	DIE CAST ALUMINUM EPOXY
23	TRAVEL STOP O RING	BUNA-N
24	TRAVEL STOP NUTS	AISI 304 STAINLESS STEEL



Dimensions

													ISO CONNECTION					
	A	B	ØC	D	E	F	G	H	ØI	L	L1	M	ØJ	K	ØW	X	DSQ P	ISO 5211
MT07	70	41	12	68	43	15	1,5	53	26	168	80	10	36 42	M5x8 M5x8	50 -	M6x10 -	11	F03/F05 F04
MT15	81	47	12	81	45	19	2	62	33	175	83	10	42 50	M5x9 M6x9	70 70	M8x12 M8x12	14	F04/F07 F05/F07
MT17	81	47	12	81	45	19	2	62	33	207	99	10	42 50	M5x9 M6x9	70 70	M8x12 M8x12	14	F04/F07 F05/F07
MT20	96	54	14	98	45	19	2	77	35	187	89	10	50	M6x9	70	M8x12	17	F05/F07
MT25	96	54	19,5	98	45	23	2	77	40,5	249	120	14	50	M6x9	70	M8x12	17	F05/F07
MT30	114	62	19,5	117	44	23	2	91	40,5	240	115	14	50	M6x9	70	M8x12	17	F05/F07
MT35	131	66	19,5	154	45	30	3	96	40,5	261	123	14	70	M8x12	102	M10x15	22	F07/F10
MT40	131	66	19,5	154	45	30	3	96	45	305	145	14	70	M8x12	102	M10x15	22	F07/F10
MT45	145	73	28	169	45	30	3	99	56,5	367	176	20	70	M8x12	102	M10x15	22	F07/F10
MT50	181	91	28	202	44	31	3	125	54,5	382	182	20	102	M10x15	125	M12x18	27	F10/F12
MT55	181	91	28	202	44	37	3	125	66,5	438	209	20	102	M10x15	125	M12x18	27	F10/F12
MT60	230	114	28	257	45	41	4	161	70	467	222	20	102 102	M10x15 M10x15	125 140	M12x18 M16x24	36	F10/F12 F10/F14
MT65	230	114	28	257	45	50	4	161	80	526	251	20	102 102	M10x15 M10x15	125 140	M12x18 M16x24	36	F10/F12 F10/F14

Air consumption

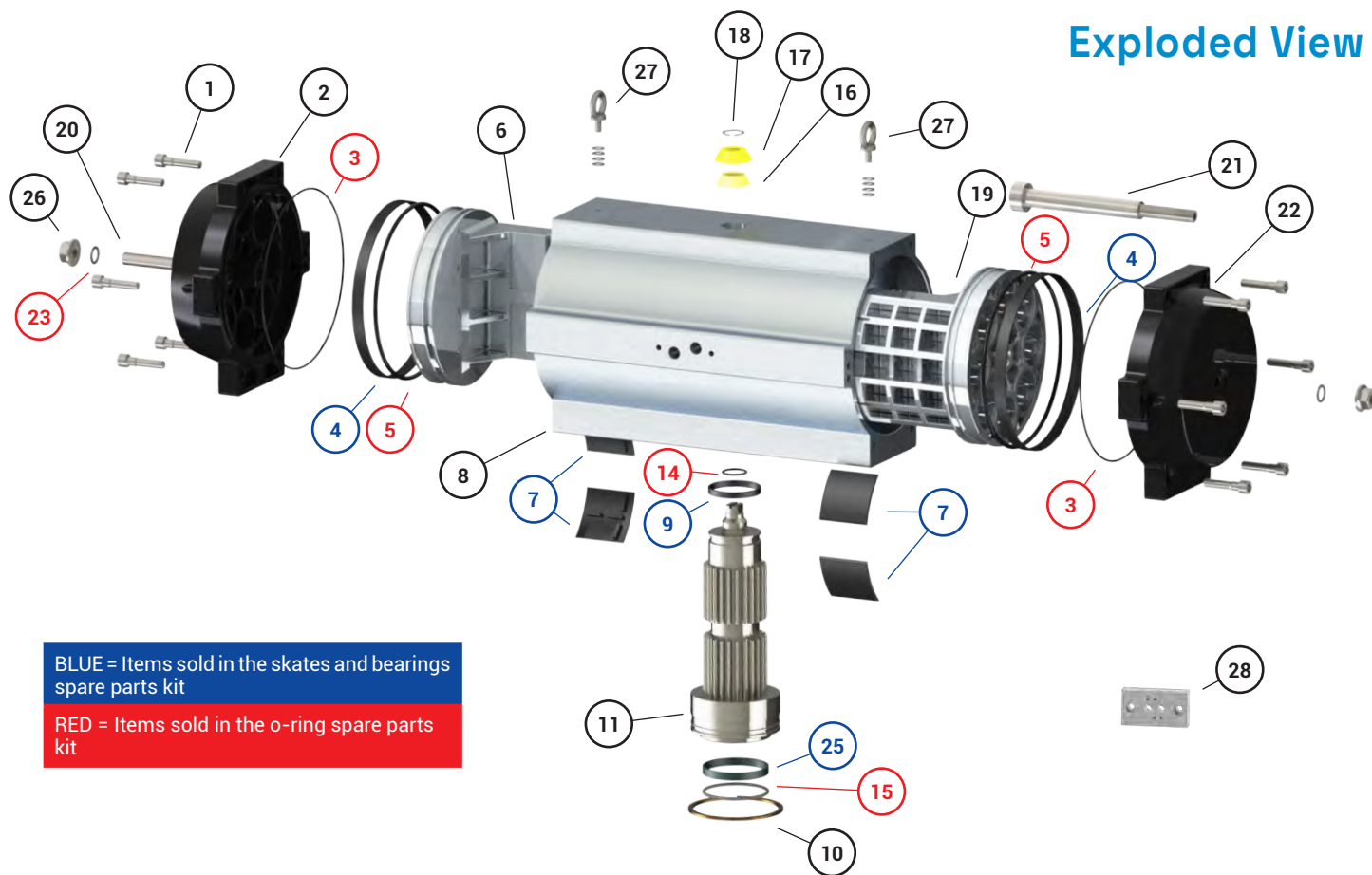
		MT07	MT15	MT17	MT20	MT25	MT30	MT35	MT40	MT45	MT50	MT55	MT60	MT65
DA	N Lt	0,25	0,41	0,55	0,71	1,10	1,40	2,45	3,05	4,40	4,60	9,00	12,50	16,60
	Cu-In	15,26	25,60	34,30	44,40	68,70	88,90	153,10	190,60	275,00	287,50	565,50	781,30	1.037,50
SR 7X5	N Lt	0,10	0,18	0,25	0,29	0,48	0,65	1,20	1,60	1,85	2,50	4,10	6,50	7,10
	Cu-In	6,10	11,20	15,60	18,10	30,00	40,60	75,00	100,00	115,60	156,25	256,30	406,20	443,80

Weight

		MT07	MT15	MT17	MT20	MT25	MT30	MT35	MT40	MT45	MT50	MT55	MT60	MT65
DA	Kg	1,25	1,50	2,18	2,15	3,25	4,15	6,45	7,70	10,65	16,20	18,50	32,70	36,20
	In Lbs	2,76	3,30	4,80	4,73	7,15	9,13	14,20	16,94	23,43	35,64	40,70	71,94	79,64
SR 7X5	Kg	1,36	1,6	2,42	2,53	3,77	4,88	7,89	9,38	13,21	21,00	23,32	42,30	45,80
	In Lbs	3,00	3,72	5,32	5,56	8,30	10,74	17,36	20,63	29,06	46,25	51,30	93,06	100,76

MT70 - MT75 Technical Data

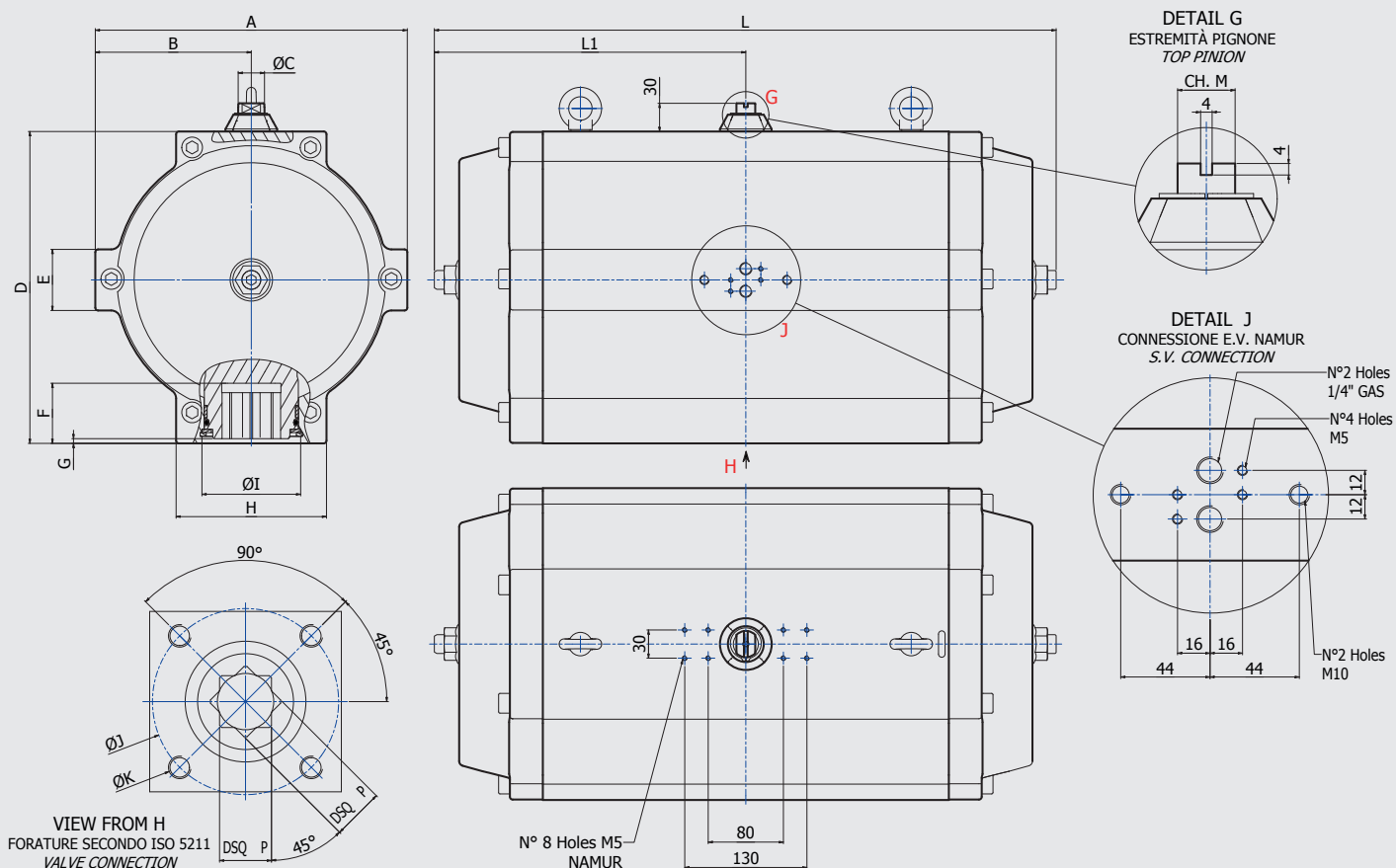
Exploded View



BLUE = Items sold in the skates and bearings spare parts kit

RED = Items sold in the o-ring spare parts kit

	ACTUATOR PARTS	MATERIALS
1	END CAP BOLTS	AISI 304 STAINLESS STEEL
2	LEFT END CAP	DIE CAST ALUMINUM EPOXY
3	END CAP O RING	BUNA-N
4	PISTON WEAR BEARING	TECHNOPOLIMER
5	PISTON O RING	BUNA-N
6	LEFT PISTON	ANODIZED ALUMINUM
7	PISTON SKATE	TECHNOPOLIMER
8	ACTUATOR BODY	EXTRUDED ALUMINUM (6063 O 6005)
9	UPPER PINION BEARING	TECHNOPOLIMER
10	PINION SNAP RING	AISI 304 STAINLESS STEEL
11	PINION	NICKEL PLATED CARBON STEEL
12		
13		
14	UPPER PINION BEARING	BUNA-N
15	LOWER PINION BEARING	BUNA-N
16	INDICATOR INSERT	TECHNOPOLIMER
17	INDICATOR	TECHNOPOLIMER
18	INDICATOR SEEGER	AISI 304 STAINLESS STEEL
19	RIGHT PISTON	ANODIZED ALUMINUM
20	TRAVEL STOP	AISI 304 STAINLESS STEEL
21	TRAVEL STOP	AISI 304 STAINLESS STEEL
22	RIGHT END CAP	DIE CAST ALUMINUM EPOXY
23	TRAVEL STOP O RING	BUNA-N
24		
25	LOWER PINION BEARING	TECHNOPOLIMER
26	TRAVEL STOP NUTS	AISI 304 STAINLESS STEEL
27	LIFTING EYEBOLTS	FORGED STAINLESS STEEL
28	ADAPTER PLATE	ALUMINUM



Dimensions

												ISO CONNECTION						
	A	B	ØC	D	E	F	G	H	ØI	L	L1	M	ØJ	K	ØW	X	DSQ P	ISO 5211
MT70	332	166	28	332	65	64	5	160	105	662	331	20	140 165	M16x25 M20x32	-	-	46	F14 F16
MT75	332	166	28	332	65	64	5	160	140	758	378	20	165	M20x32	-	-	46	F16

Air consumption

		MT70	MT75
DA	N Lt	27,10	31,40
	Cu-In	1.696,80	1.962,50
SR 7X5	N Lt	9,60	11,70
	Cu-In	600,00	731,30

Weight

		MT70	MT75
DA	Kg	66,80	81,60
	In Lbs	146,96	179,52
SR 7X5	Kg	82,96	98,00
	In Lbs	182,51	215,00

Accessories



Positioners



Limit Switch Boxes



Namur & Inline Solenoid Valves



Manual and declutchable Gear Boxes



Ordering code

MT 20 - 0 D A D 3 1 S 1 0 0

MT SERIES Aluminum pneumatic actuators

SIZE

03	07	20	30	40	50	60	70
05	15	25	35	45	55	65	75

ACTUATOR TYPE

0	DE - DA	6	SE - SR 6+6
3	SE - SR 3+3	7	SE - SR 7+7 (Just for MT70+MT75)
4	SE - SR 4+4	8	SE - SR 8+8 (Just for MT70+MT75)
5	SE - SR 5+5		

FLANGES

A	ISO F03/F05 (ISO F03 per MT03)	G	ISO F10/F12
B	ISO F04	H	ISO F10/F14
C	ISO F04/F07	8	ISO F14
D	ISO F05/F07	9	ISO F16
E	ISO F07/F10		

STROKE

A 90°

SOCKET TYPE

A	9	C	14	E	22	G	36	X	DD - Double D
B	11	D	17	F	27	H	46	\$	Round and keyway

END CAPS COLOUR

1	Blue	3	Black	5	Nickel plated
---	------	---	-------	---	---------------

ROTATION

1	DA Standard Rotation SR Fail Closed Clockwise
2	DA Reverse Rotation Perpendicular r SR Fail Open Counterclockwise
3	DA Standard Rotation Perpendicular SR Fail Closed Clockwise
4	DA Reverse Rotation SR Fail Open Counterclockwise
V	MOUNT 1 with indicator with inserts
W	MOUNT 2 with indicator with inserts
X	MOUNT 3 with indicator with inserts
Y	MOUNT 4 with indicator with inserts

TEMPERATURE

S	Standard (-20° to 80°C)
H	High temperature (-20° to 150°C)
L	Low temperature (-50° to 80°C)

PINION

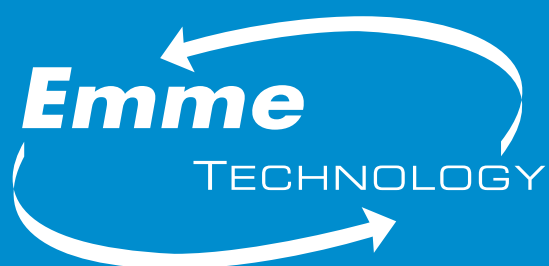
1	NP AVP	2	AISI 316	3	AISI 316 + fasteners
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PAINTING

0	No painting	N	Norsok
S	Standard epoxy coating	C	C5M

CERTIFICATION

0	Std (ATEX 2014/34/EU)	2	SIL3 certified
1	DNV GL	4	EAC TR (safe area)



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