

SAMSON ROTACTOR® RP 3171

Pneumatic rack and pinion actuators
AT045U → AT1001U models

Application

Rotary pneumatic actuators for remote operation (on/off or modulating duties) of industrial valves such as ball valves, butterfly valves and plug valves as used in process industries like chemical, petrolchemical, pharmaceutical, water treatment, oil & gas.

The SAMSON ROTACTOR RP 3171 actuators are available in two configurations: double acting and single acting.

Mechanical Spring Return is for fail-safe applications and can be assembled for "Fail Close" or "Fail Open" safety function.

Double acting actuators can be used for a "Fail Last" Position safety function.

Special features

- Alodur hard anodized extruded aluminum body for corrosion protection, low friction and wearing resistance
- Dual piston rack and pinion design for compact construction and symmetric mounting.
- Fully machined teeth on piston racks and pinion shaft for accurate positioning, low backlash and maximum engagement.
- Two independent external travel stop adjustments.
- Universal and anti-blowout drive shaft with multiple valve connection options.
- Identical body and end caps for double acting and spring return configuration to allow field conversion.
- Stainless steel fasteners for high corrosion resistance.
- Multiple bearings and guides for high cycles and low friction
- Modular preloaded springs.
- Extended working temperature range as standard.

Versions

- Spring return:
 - 90°, 120° and 180° rotation.
- Double acting:
 - 90°, 120°, 135° and 180° rotation,
 - 3 position 90° rotation,
 - 3 position 180° rotation.



Fig. 1: ROTACTOR RP 3171 actuators

Further versions

- Actuator with gearbox,
- Block and safety lock-out system,
- 100% travel stop limitation in both opening and closing direction,
- Fast acting.

Principle of operation

1. DOUBLE ACTING

Refer to Fig.2.

In case of the double acting configuration air pressure is necessary for both strokes (A and B).

2. SINGLE ACTING

Refer to Fig. 3.

When air pressure is supplied through port "2" (A') into the actuator body, the linear force applied on the piston surface generates the pinion rotation, driving the valve to a defined position. At the same time the actuator springs are compressed.

When air pressure is discharged (B'), the springs are automatically released, driving the rack and pistons back to the original position and thus the valve to the fail-safe position.

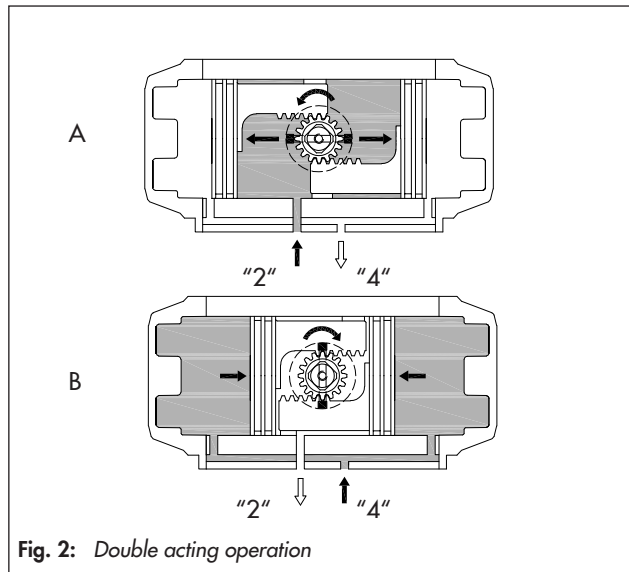


Fig. 2: Double acting operation

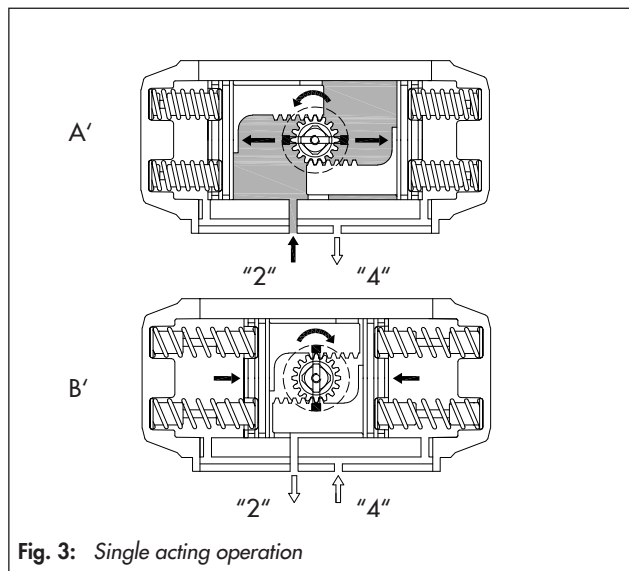


Fig. 3: Single acting operation

Direction of action and stroke adjustment

The standard rotating direction for the Rotactor RP 3171 actuators is clockwise to close. Standard Rotactor RP 3171 actuators are designed for 90° rotating angle, with travel stop allowing adjustment for -5° up to +15° on the close position

and for +5° up to -15° on the open position as per Fig. 4. For AT045U stroke adjustment is only available on request.

For spring return actuator in case of pressure, power or signal failure the springs drive the actuator in the fail position that can be FAIL OPEN or FAIL CLOSE.

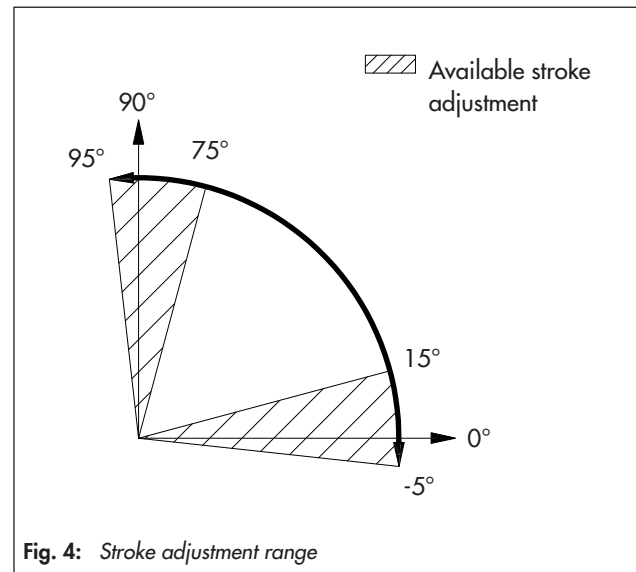


Fig. 4: Stroke adjustment range

Actuators assembly type

- ST: clockwise to close (spring to close) and close indication at air failure condition (or with pressurized port 4 for double acting) for in line mounting. Refer to Fig. 5.
- STR: Clockwise to close (spring to close) and close indication at air failure condition (or with pressurized port 4 for double acting) for across line mounting. Refer to Fig. 5.

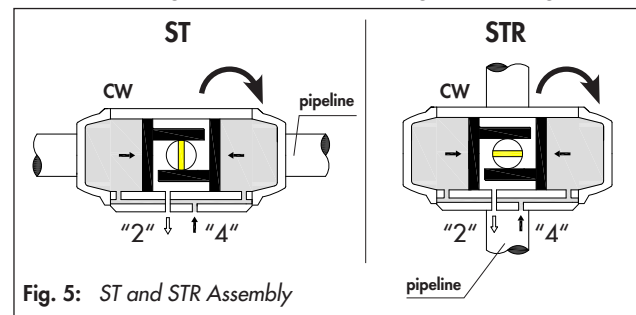


Fig. 5: ST and STR Assembly

- LF: Counterclockwise to close (spring to open) and open indication at air failure condition (or with pressurized port 4 for double acting) for across line mounting. Refer to Fig. 6.
- LFR: Counterclockwise to close (spring to open) and open indication at air failure condition (or with pressurized port 4 for double acting) for in line mounting. Refer to Fig. 6.

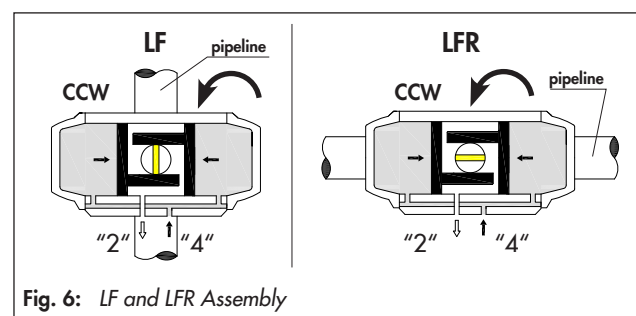


Fig. 6: LF and LFR Assembly

Power operating media

Use dry or lubricated air or inert gas.

- Make sure the operating media is compatible with the actuator internal parts and lubricant.
- In case of pressure medium different than Group 2 fluids according to the PED 2014/68/EU, contact Samson.
- The operating media must have a dew point equal to 20°C (-4°F) or at least 10°C (18°F) below the ambient temperature.
- The maximum particle size contained into the operating media must not exceed 30 µm.

Further information

The actuators can be operated in different ways:

- direct mounting of control devices (for example a solenoid valve or a manifold) with NAMUR interface,
- threaded connections (to pressurize port "2" and "4") with air lines from separate electro-pneumatic control system.

Installation

Refer to the EB 8325 EN mounting and operating instructions.

Further versions

- **Extra travel stop limitations (R100/R50/RC100)**

R50/R100

Actuator travel stop limitations are available in both opening or closing directions for standard assembly (clockwise to close) in order to provide maximum flexibility.

the R50 and R100 allows to limit the actuator stroke in opening direction (from 90° to 0°).

The R50 allow to limit the 45% of the stroke (from 90° to 45° stroke range).

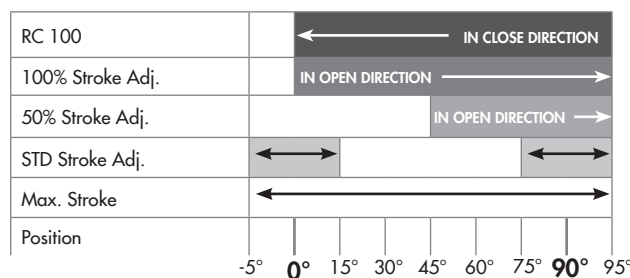
The R100 allow to limit the 100% of the stroke (from 90° to 0° stroke range).

both R50 and R100 extra travel stop adjustments are equipped with protective plugs at the two adjustment screws ends in order to protect the two ends and to avoid potential cut due to screws sharp edges.

The R50 and R100 can be directly supplied mounted on the actuators or supplied as kits to retrofit sold actuators.

RC100

The RC100 allows to limit the 100% of the stroke in closing direction (from 90° to 0° stroke range).



TYPICAL APPLICATION: any application where an extra travel stop opening or closing position is required.

- **Fast acting**

The Fast Acting (FA) actuators are special actuators able to stroke faster respect the standard actuators. They are available both in double acting and in spring return configurations.

This type of actuators has enlarged ports and internal canalization which allows an higher flow rate of the the actuator and so a quicker operation in closing and/or opening direction.

TYPICAL APPLICATION: any application where actuator quick action is required

- **Low and high working temperature configurations**

In case minimum working temperature up to -60°C or maximum working temperature up to +150°C are required, the following special product configuration are available:

- LLT2 version for extreme low operating temperature range:
-60° C (-76° F) → +80° C (+176° F);

- HT version for high operating temperature range:
-15° C (+5° F) → +150° C (+302° F).

TYPICAL APPLICATION: where the required working temperature exceeds the actuator standard working temperature range (-40°C / +80°C)

- **Special painting according to ISO 12944-2**

Different protection levels available in order to meet the field corrosion resistance requirements.

the protection levels are different combination of materials and painting cycles/types.

According to the ISO 12944-2 the standard available protection levels with single layer painting go approx. from the C3 level up to C5 level.

Special paint systems are available according to customer specification, including multilayer painting.

- **Water operated actuator**

The Rotactor RP 3171 actuators are operated with dry air or inert gas. Special actuator configurations are available to operate with water as supply media.

Contact Samson for further detailed information.

- **Natural gas operated actuator**

The Rotactor RP 3171 actuators are operated with dry air or inert gas. Special actuator configurations are available to operate with natural gas (sweet and dry or sour) as supply media.

Contact Samson for further detailed information.

Complementary parts

- **Actuator with lock out system on adjustment screws**

In order to permanently lock the actuator in position, the actuator can be supplied with a special locking device by using a padlock and therefore preventing unwanted operation.

The lock out system on adjustment screws can be directly supplied mounted on the actuators or supplied as kits to retrofit sold actuators.

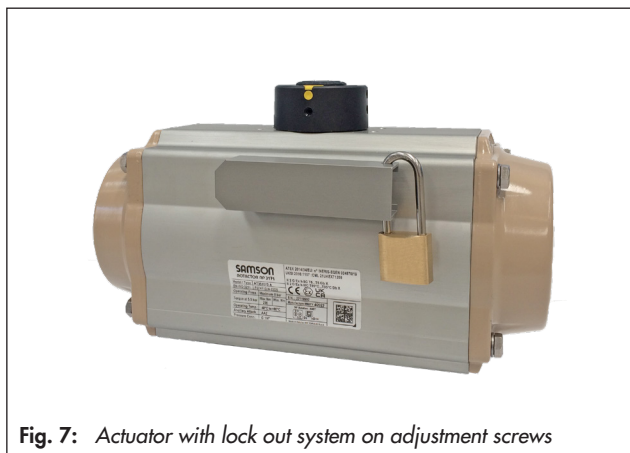


Fig. 7: Actuator with lock out system on adjustment screws

- **Actuator with block and safety lock-out system**

The block and safety lock-out system permits to lock the actuator and the valve in specific cases, despite the fail action of the actuator.

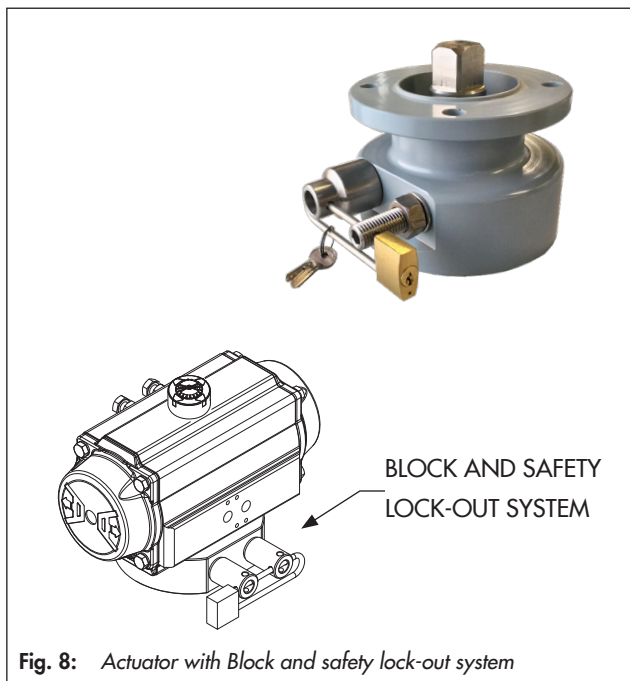


Fig. 8: Actuator with Block and safety lock-out system

- **Actuator with declutchable gearbox**

It is a manual override system designed to provide manual operation to stroke the actuator and the valve. The gearbox can have a vital role to stroke the actuator and the valve in the safe position when the supply pressure is not available in case of any emergency situation. The actuator and the valve are operated rotating a handwheel.

Samson can provide the actuator packed with the declutchable gear box (buyout item).

The gearbox valve interface and connection (ISO flange and/or valve stem adaption) are defined in the purchase order.

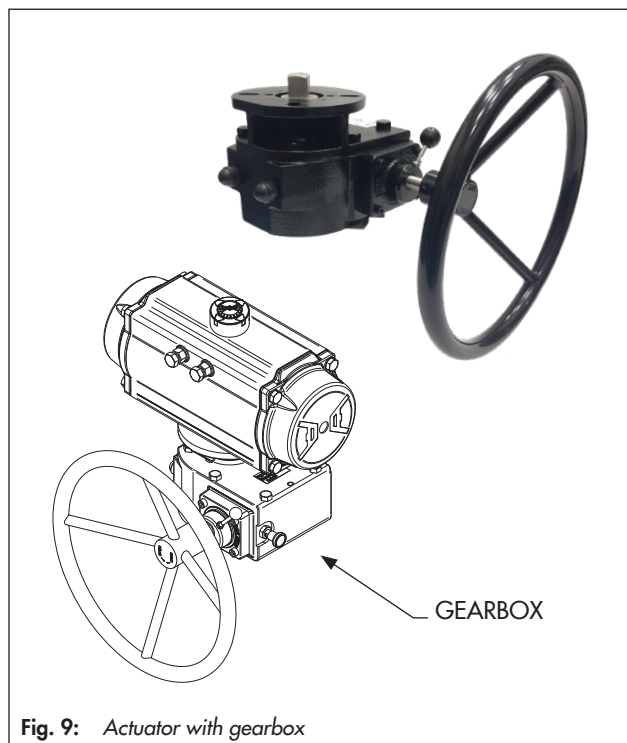


Fig. 9: Actuator with gearbox

Table 1: SAMSON ROTACTOR RP 3171 - AT045U

Table 1.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
				opening	closing	opening	closing	opening	closing	ST	HT	LLT2
8 bar	0° - 90°	³⁾	45	0,06	0,1	0,15	0,20	0,20	0,25	-40 to +80	-15 to +150	-60 to +80

- ¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.
- ²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.
- ³⁾ Rotation for STANDARD actuator: 91.5°, +1 in open position (CCW for STANDARD) and -0.5° in close position (CW for STANDARD).
Rotation for actuator with EXTERNAL STROKE ADJUSTMENT: 94.5°, 90° +4° adjustable in open position (CCW for STANDARD) and -0.5° in close position (CW for STANDARD).

Table 1.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	6,0		7,2		8,4		9,6		10,1		10,8		12,0		13,2		14,4		16,8		19,1		0,75

Table 1.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°	
S 1-1	4,3	2,9																					3,1	1,7	0,87
S 1-2			4,7	2,4																			4,8	2,6	
S 2-2					4,9	2,0	6,1	3,2	6,6	3,7	7,3	4,4											6,4	3,5	0,89
S 2-3										6,6	2,8	7,8	4,0	9,0	5,2	10,2	6,4						8,0	4,2	
S 3-3														8,2	3,6	9,4	4,8	11,8	7,2	14,1	9,5	9,6	5,0	0,90	

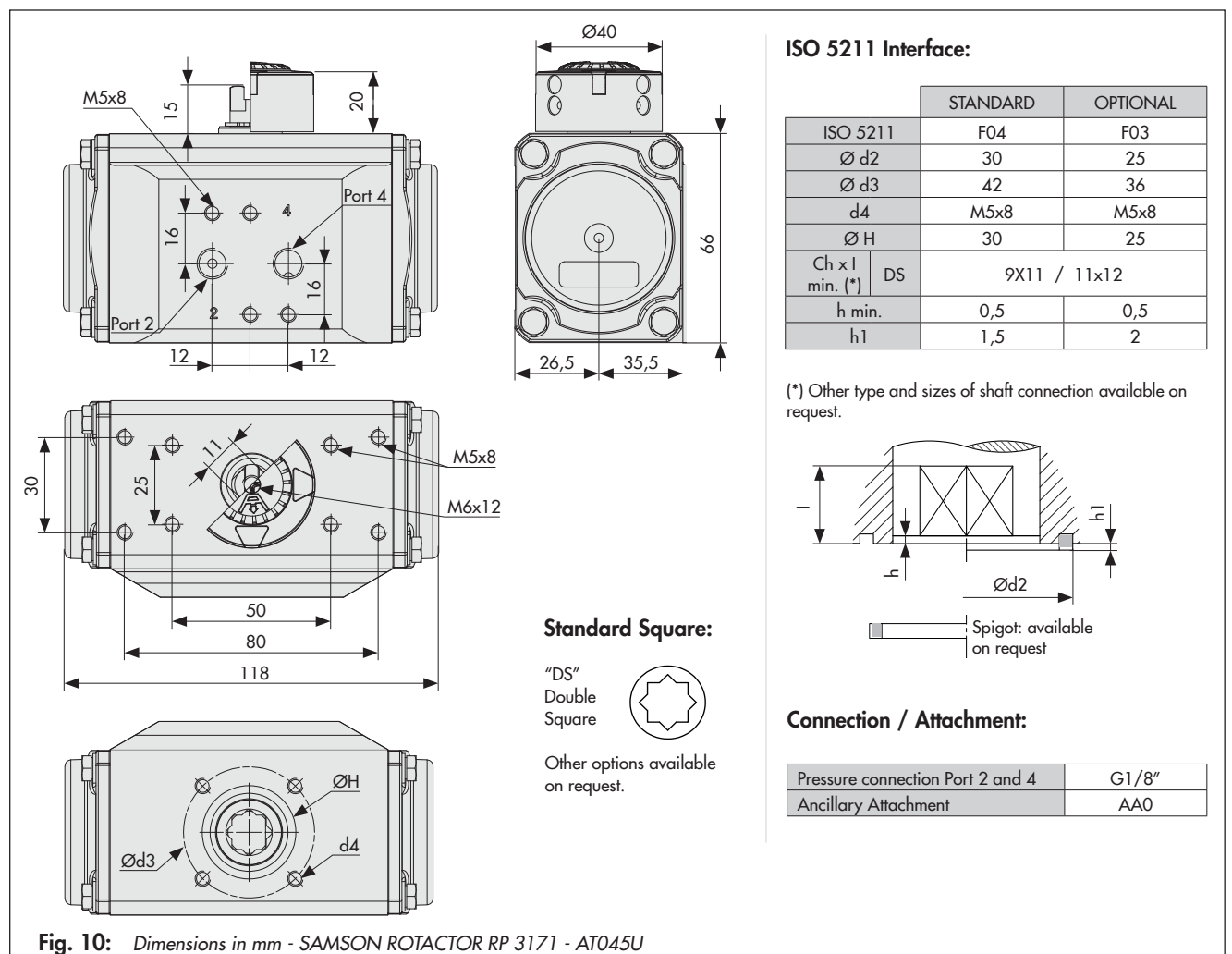


Fig. 10: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT045U

Table 3: SAMSON ROTACTOR RP 3171 - AT101U

Table 3.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/6 Turn needed	63	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				0,16	0,26	0,25	0,30	0,30	0,35	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 3.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	14,7		17,6		20,5		23,5		24,6		26,4		29,3		32		35,2		41		46,9		1,61

Table 3.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S05	9,1	6,2	12	9,2	15	12,1	17,9	15	19,1	16,2	20,8	17,9	23,8	20,9									8,4	5,5	1,72
S06	8	4,5	10,9	7,5	13,9	10,4	16,8	13,3	18	14,5	19,7	16,3	22,7	19,2	25,6	22,1							10,1	6,7	
S07			9,8	5,8	12,8	8,7	15,7	11,6	16,9	12,8	18,6	14,6	21,5	17,5	24,5	20,4	27,4	23,4					11,8	7,8	1,76
S08					11,6	7	14,6	10	15,7	11,1	17,5	12,9	20,4	15,8	23,4	18,7	26,3	21,7	32,2	27,5			13,5	8,9	
S09							13,5	8,3	14,6	9,4	16,4	11,2	19,3	14,1	22,3	17,1	25,2	20	31,1	25,9	36,9	31,7	15,2	10	1,80
S10											15,3	9,5	18,2	12,4	21,1	15,4	24,1	18,3	29,9	24,2	35,8	30	16,9	11,1	
S11													17,1	10,8	20	13,7	23	16,6	28,8	22,5	34,7	28,3	18,6	12,2	1,84
S12															18,9	12	21,9	14,9	27,7	20,8	33,6	26,7	20,2	13,3	

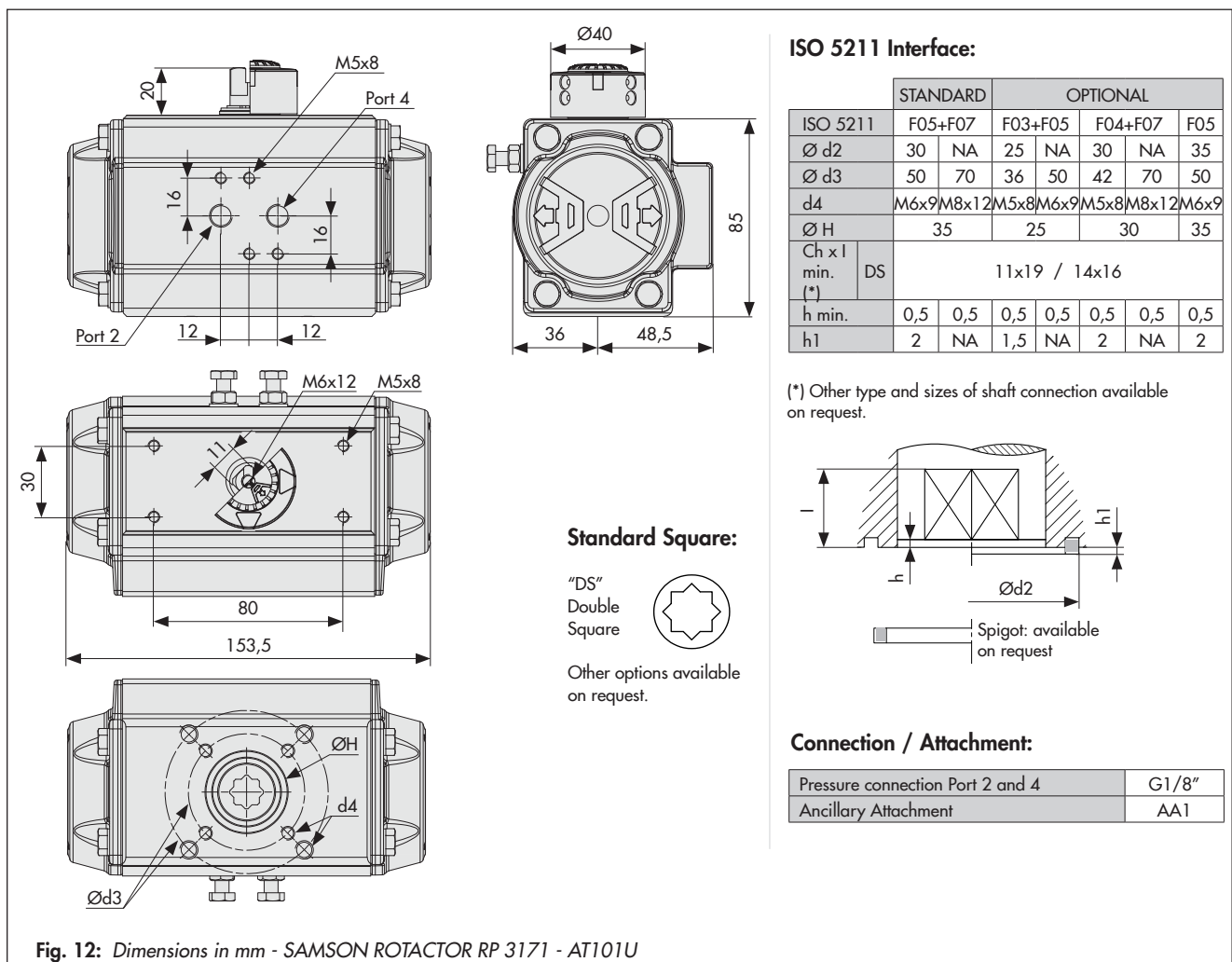


Fig. 12: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT101U

Table 4: SAMSON ROTACTOR RP 3171 - AT201U

Table 4.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/6 Turn needed	75	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				0,31	0,49	0,30	0,35	0,40	0,50	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 4.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	29,1		34,9		40,7		46,5		48,9		52,4		58,2		64		69,8		81,4		93,1		2,68

Table 4.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke 90° 0°	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			
S 05	18	11,8	23,8	17,6	29,7	23,4	35,5	29,2	37,8	31,6	41,3	35	47,1	40,9									17,3	11,1	2,85
S 06	15,8	8,3	21,6	14,1	27,5	19,9	33,3	25,8	35,6	28,1	39,1	31,6	44,9	37,4	50,7	43,2							21	13,3	
S 07			19,4	10,7	25,2	16,5	31,1	22,3	33,4	24,6	36,9	28,1	42,7	33,9	48,5	39,8	54,3	45,6					24,2	15,5	2,91
S 08					23	13	28,8	18,8	31,2	21,2	34,7	24,7	40,5	30,5	46,3	36,3	52,1	42,1	63,7	53,7			27,7	17,7	
S 09							26,6	15,4	29	17,7	32,5	21,2	38,3	27	44,1	32,8	49,9	38,6	61,5	50,3	73,2	61,9	31	19,9	2,97
S 10											30,2	17,7	36,1	23,6	41,9	29,4	47,7	35,2	59,3	46,8	71	58,5	34,6	22,1	
S 11													33,8	20,1	39,7	25,9	45,5	31,7	57,1	43,4	68,7	55	38,1	24,3	3,03
S 12															37,5	22,4	43,3	28,3	54,9	39,9	66,5	51,5	41,5	26,5	

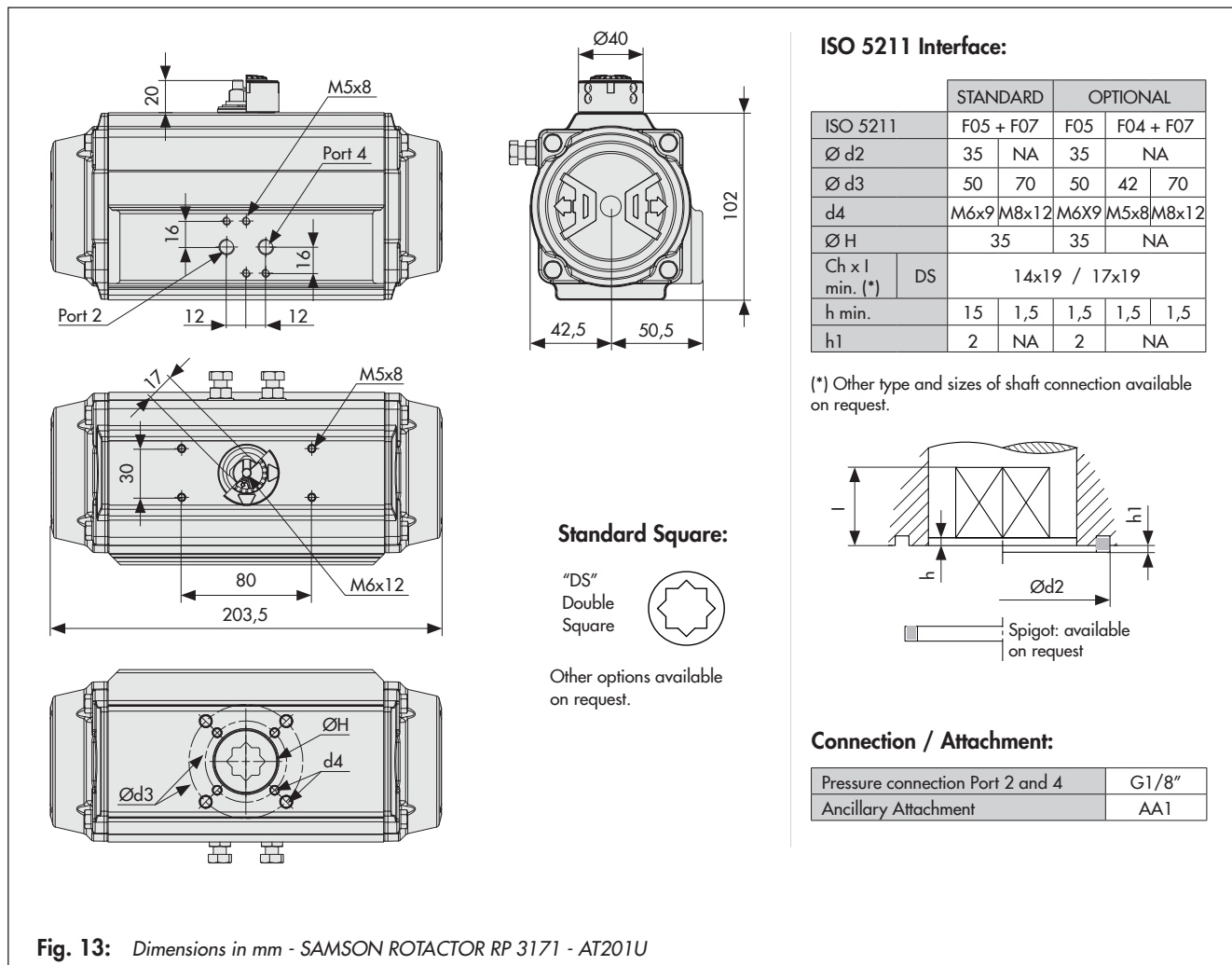


Fig. 13: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT201U

Table 5: SAMSON ROTACTOR RP 3171 - AT251U

Table 5.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/5 Turn needed	88	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				0,51	0,78	0,40	0,50	0,50	0,60	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.
²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 5.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	45,8	54,9	64,1	73,2	76,9	82,4	91,5	101	110	128	146	3,62

Table 5.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Spring Stroke 90° 0°	Approx weight (kg)														
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°																
S 05	27,4	16,9	36,6	26	45,7	35,2	54,9	44,3	58,5	48	64	53,5	73,2	62,6									28,9	18,3	4,10		
S 06	23,8	11,1	32,9	20,3	42,1	29,4	51,2	38,6	54,9	42,2	60,4	47,7	69,5	56,9	78,7	66										34,7	22
S 07			29,2	14,5	38,4	23,6	47,5	32,8	51,2	36,4	56,7	41,9	65,8	51,1	75	60,2	84,2	69,4							40,4	25,7	4,20
S 08					34,7	17,9	43,9	27	47,5	30,7	53	36,2	62,2	45,3	71,3	54,5	80,5	63,6	98,8	81,9					46,2	29,3	
S 09							40,2	21,2	43,9	24,9	49,4	30,4	58,5	39,5	67,7	49	76,8	57,8	95,1	76,1	113	94,5	52	33			4,30
S 10													45,7	24,6	54,8	33,8	64	42,9	73,1	52,1	91,5	70,4	110	88,7	57,8	36,7	
S 11															51,2	28	60,3	37,1	69,5	46,3	87,8	64,6	106	82,9	63,5	40,3	4,40
S 12																	56,7	31,4	65,8	40,5	84,1	58,8	102	77,1	69,3	44	

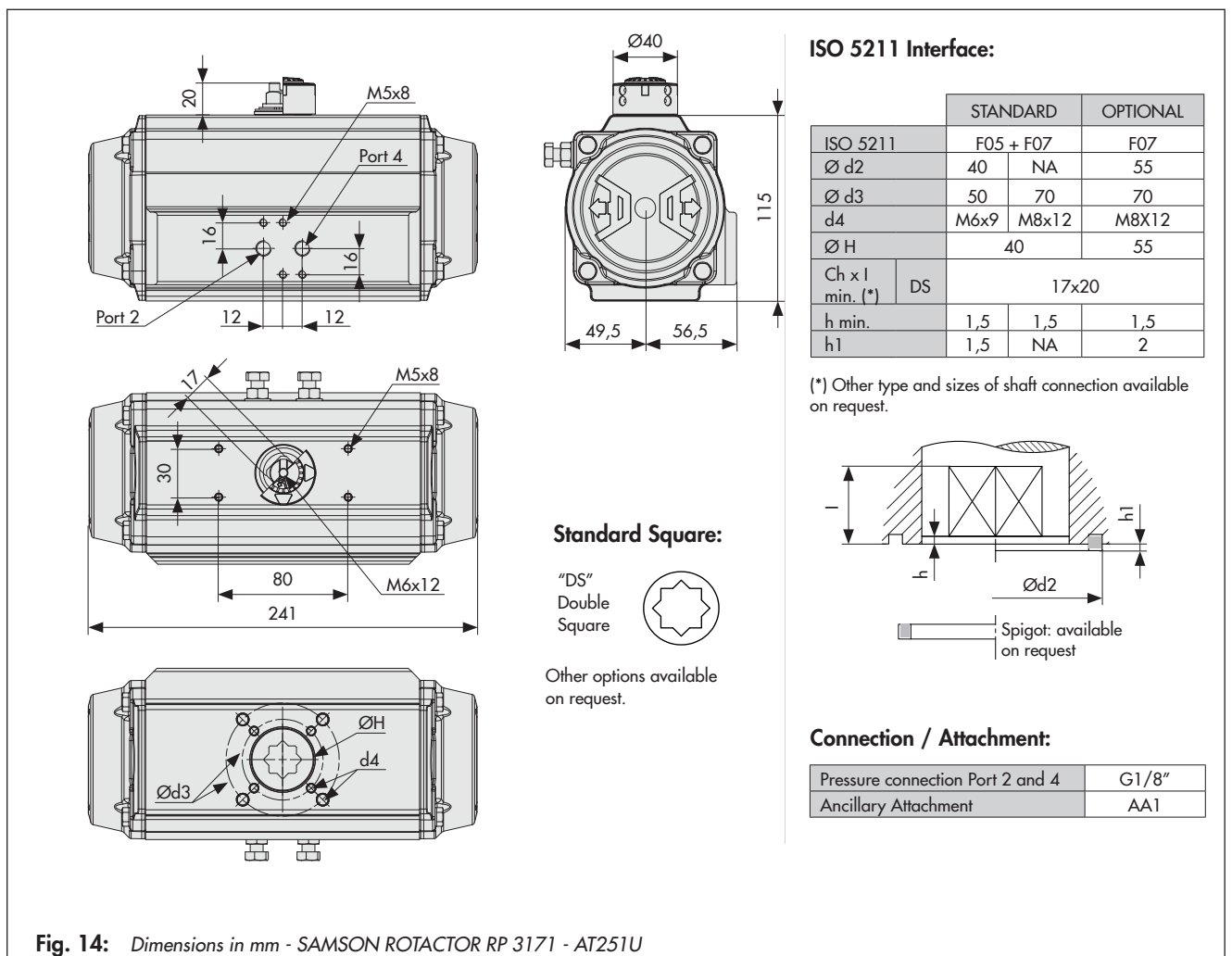


Fig. 14: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT251U

Table 6: SAMSON ROTACTOR RP 3171 - AT301U

Table 6.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/5 Turn needed	100	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				0,71	1,11	0,50	0,60	0,70	0,90	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 6.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	66,5		79,8		93,1		106		112		120		133		146		160		186		213		5,15

Table 6.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	41,1	27,1	54,4	40,4	67,7	53,7	81	67	86,3	72,3	94,3	80,3	108	93,6									39,4	25,3	5,55
S 06	36,1	19,2	49,4	32,5	62,7	45,8	76	59,1	81,3	64,4	89,3	72,4	103	85,7	116	99							47,3	30,4	
S 07			44,3	24,6	57,6	37,9	70,9	51,2	76,2	56,5	84,2	64,5	97	77,8	111	91,1	124	104					55,1	35,5	5,68
S 08					52,5	30	65,8	43,3	71,1	48,7	79,1	56,6	92,4	69,9	106	83,2	119,0	96,5	146	123			63	40,5	
S 09							60,8	35,5	66,1	40,8	74,0	48,8	87,3	62,1	101	75,3	113,9	88,6	141	115	167	142	70,9	45,6	5,82
S 10											69	40,9	82,3	54,2	95,6	67,5	109	80,8	135	107	162	134	78,8	50,7	
S 11													77,2	46,3	90,5	59,6	104	72,9	130	99	157	126	86,7	55,7	5,95
S 12															85,4	51,7	99	65	125	92	152	118	94,5	60,8	

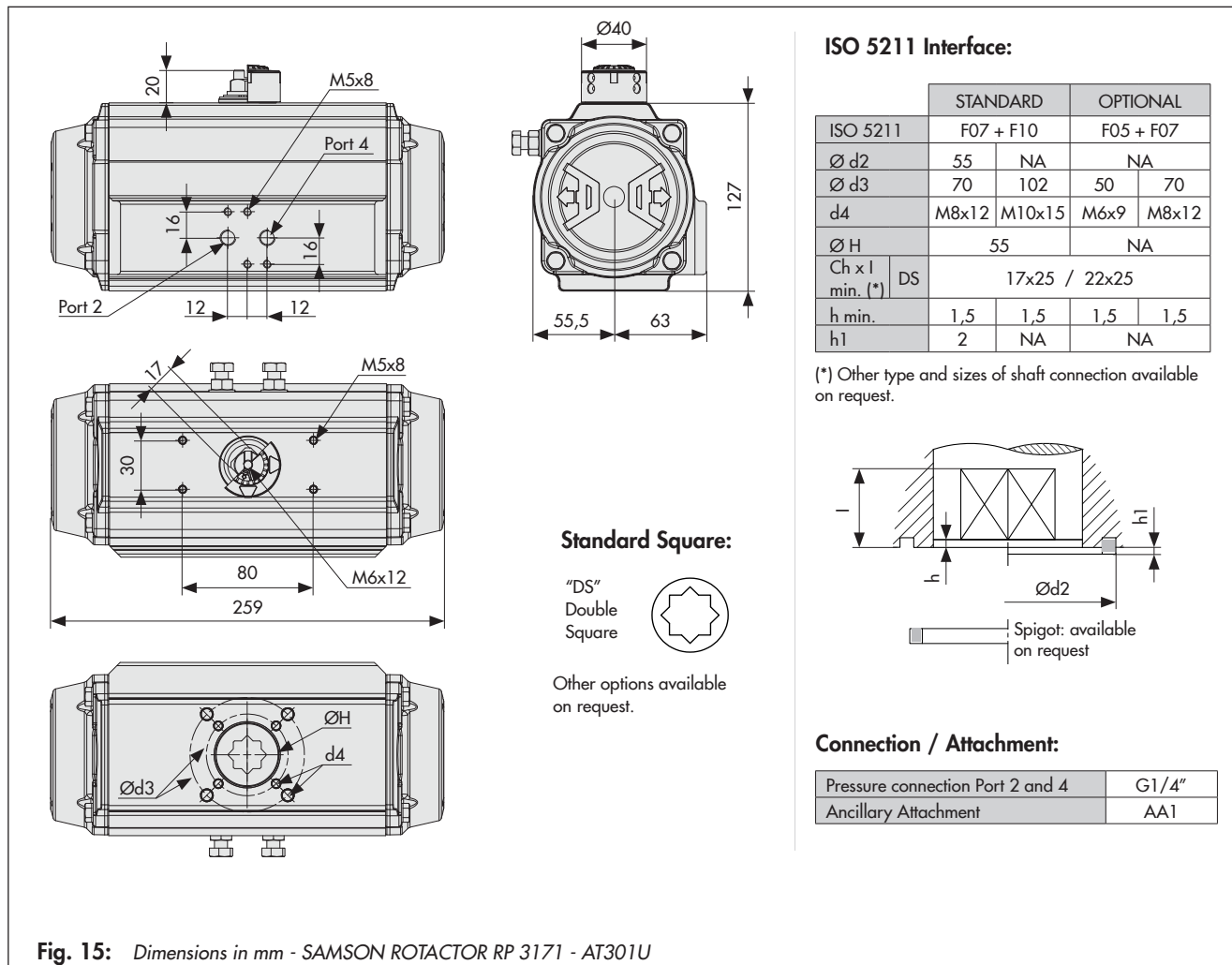


Fig. 15: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT301U

Table 7: SAMSON ROTACTOR RP 3171 - AT351U

Table 7.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
				opening	closing	Double acting		Spring return		ST	HT	LLT2
8 bar	0° - 90°	For 1° adj. 1/5 Turn needed	115	opening	closing	opening	closing	opening	closing	-40 to +80	-15 to +150	-60 to +80
				1,19	1,8	0,70	0,80	0,90	1,10			

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 7.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	107	129	150	172	181	193	215	236	258	301	344	8,07

Table 7.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Spring Stroke 90° 0°	Approx weight (kg)															
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°																	
S 05	66,5	41,9	87,9	63,4	109,4	84,9	131	106	140	115	152	128	174	149									65,5	41	8,79			
S 06	58,3	28,8	79,7	50,3	101,2	71,8	123	93,3	131	102	144	115	166	136	187	158										78,6	49,2	
S 07			71,5	37,2	93	58,7	115	80,2	123	88,8	136	102	158	123	179	145	200	166								91,7	57,4	9,03
S 08					84,8	45,6	106	67,1	115	75,7	128	88,6	149	110	171	132	192	153	235	196						105	65,6	
S 09							98,1	54	107	62,6	120	75	141	97	163	118	184	140	227	183	270	226	118	73,8		9,27		
S 10											111	62,4	133	83,9	154	105	176	127	219	170	262	213	131	82				
S 11													125	70,8	146	92,3	168	114	211	157	254	200	144	90,2		9,51		
S 12																	138	79,2	159	101	202	144	245	187	157	98,4		

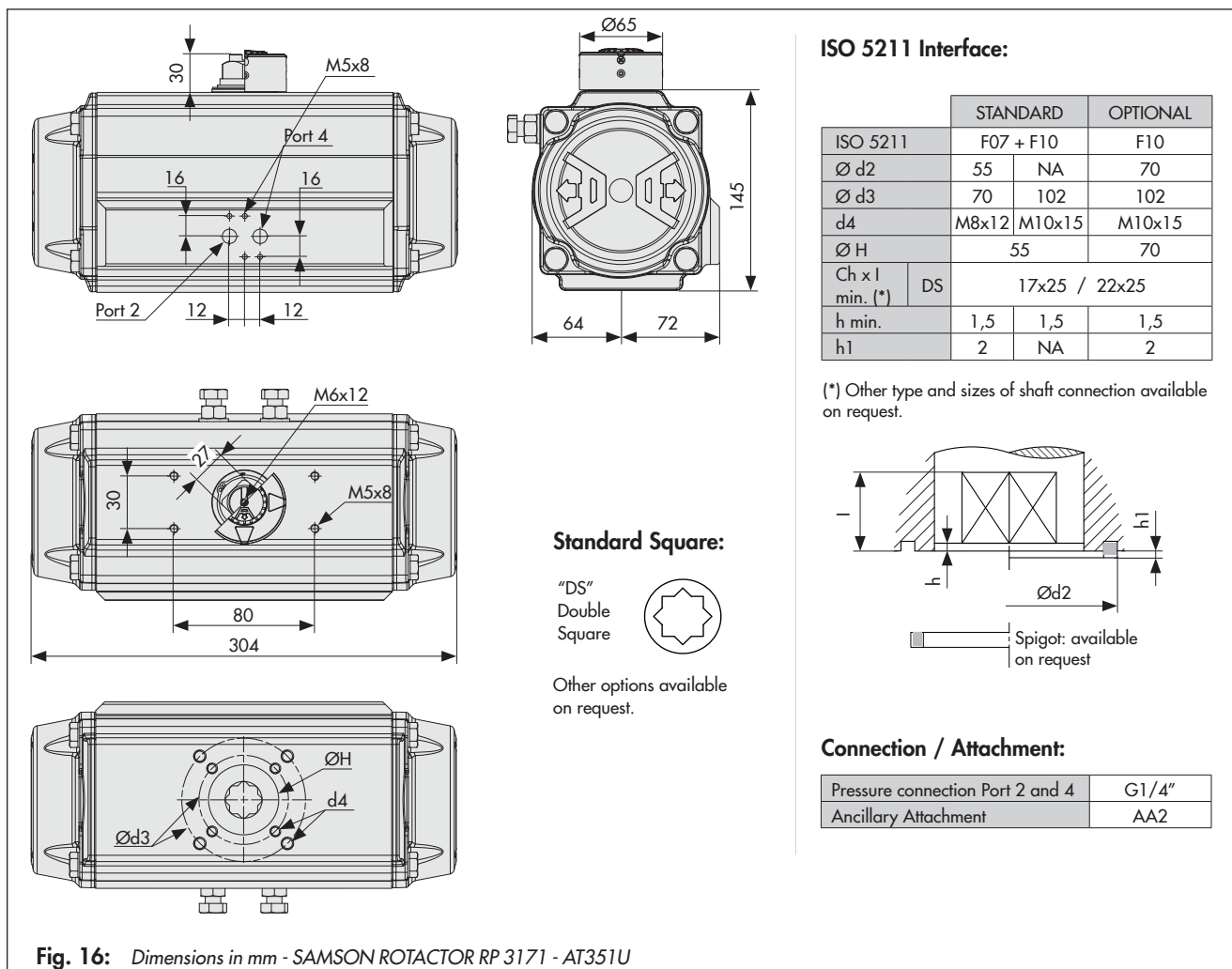


Fig. 16: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT351U

Table 8: SAMSON ROTACTOR RP 3171 - AT401U

Table 8.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	125	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				1,54	2,34	0,90	1,10	1,20	1,40	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 8.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	138		166		194		222		233		249		277		305		332		388		443	9,97	

Table 8.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke 90° 0°	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			
S 05	86	56,1	114	83,8	141	111	169	139	180	150	197	167	224	195									82,4	52,5	11,70
S 06	75,5	39,6	103	67,3	131	95,0	159	123	170	134	186	150	214	178	242	206							98,9	63	
S 07			92,7	50,8	120	78,5	148	106	159	117	176	134	203	162	231	189	259	217					115	73,5	11,47
S 08					110	62	138	89,7	149	101	165	117	193	145	221	173	248	201	304	256			132	84	
S 09							127	73,3	138	84,3	155	101	182	129	210	156	238	184	293	239	349	295	148	94,5	11,87
S 10											144	84,5	172	112	200	140	227	168	283	223	338	278	165	105	
S 11													161	95,7	189	123	217	151	272	206	328	262	181	116	12,27
S 12															179	107	206	135	262	190	317	245	198	126	

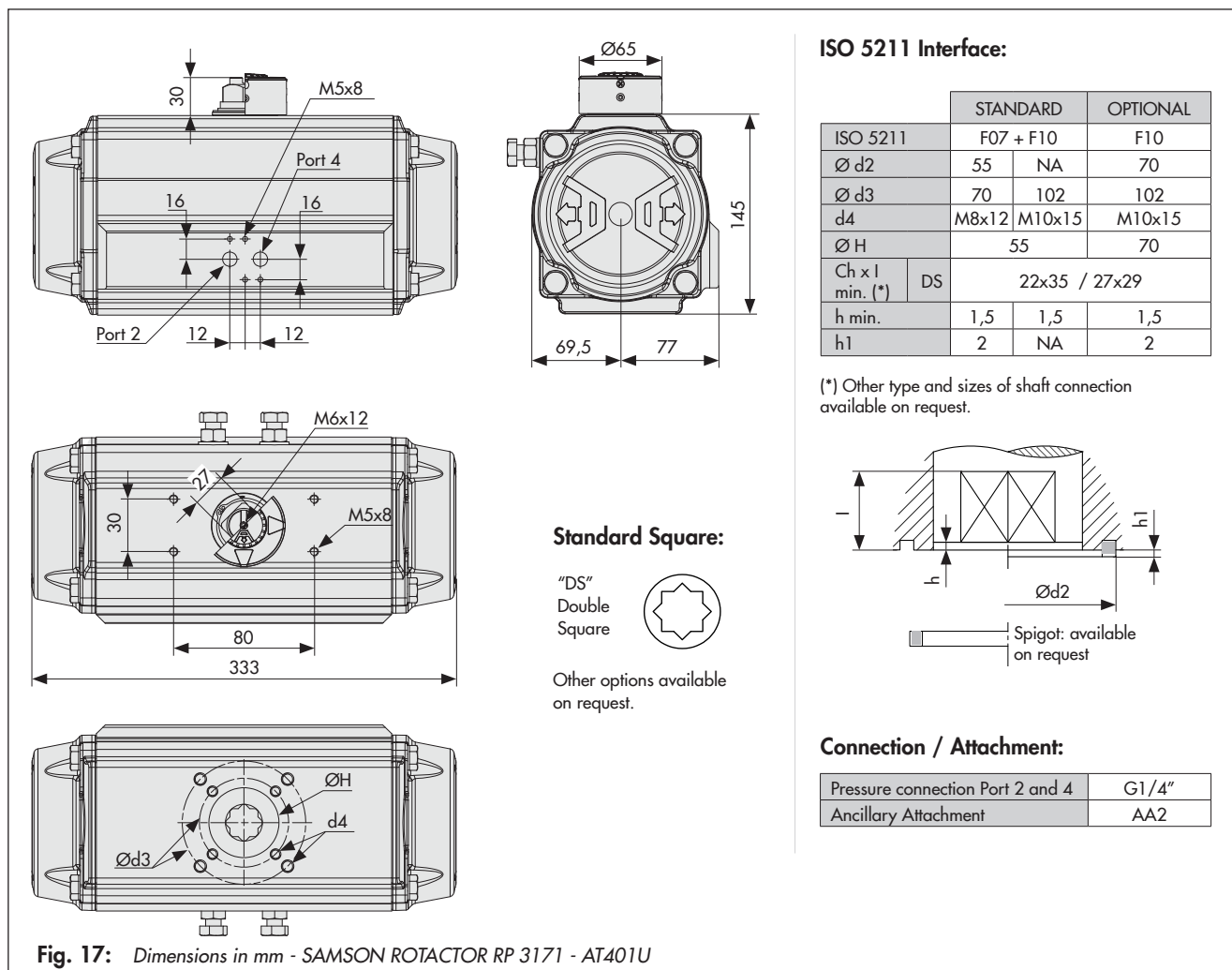


Fig. 17: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT401U

Table 9: SAMSON ROTACTOR RP 3171 - AT451U

Table 9.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
				opening	closing	Double acting		Spring return		ST	HT	LLT2
8 bar	0° - 90°	For 1° adj. 1/5 Turn needed	145	opening	closing	opening	closing	opening	closing	-40 to +80	-15 to +150	-60 to +80
				0,51	0,78	0,40	0,50	0,50	0,60			

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 9.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	217		261		304		348		365		391		435		478		522		609		696		14,2

Table 9.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			
S 05	135	89	179	132	222	176	265	219	283	236	309	262	352	306									129	82,4	15,5
S 06	119	63	162	106	206	149,7	249	193	266	211	293	237	336	280	379	324							155	99	
S 07			146	80	189	124	233	167	250	185	276	211	320	254	363	298	406	341					180	115	16,0
S 08					173	98	216	142	233	159	260	185	303	229	347	272	390	316	477	403			206	132	
S 09							200	116	217	133	243	159	287	203	330	246	374	290	460	377	547	464	232	148	16,0
S 10											227	134	270	177	314	221	357	264	444	351	531	438	258	165	
S 11													254	151	297	195	341	238	428	325	515	412	283	181	17,0
S 12															281	169	324	213	411	299	498	386	309	198	

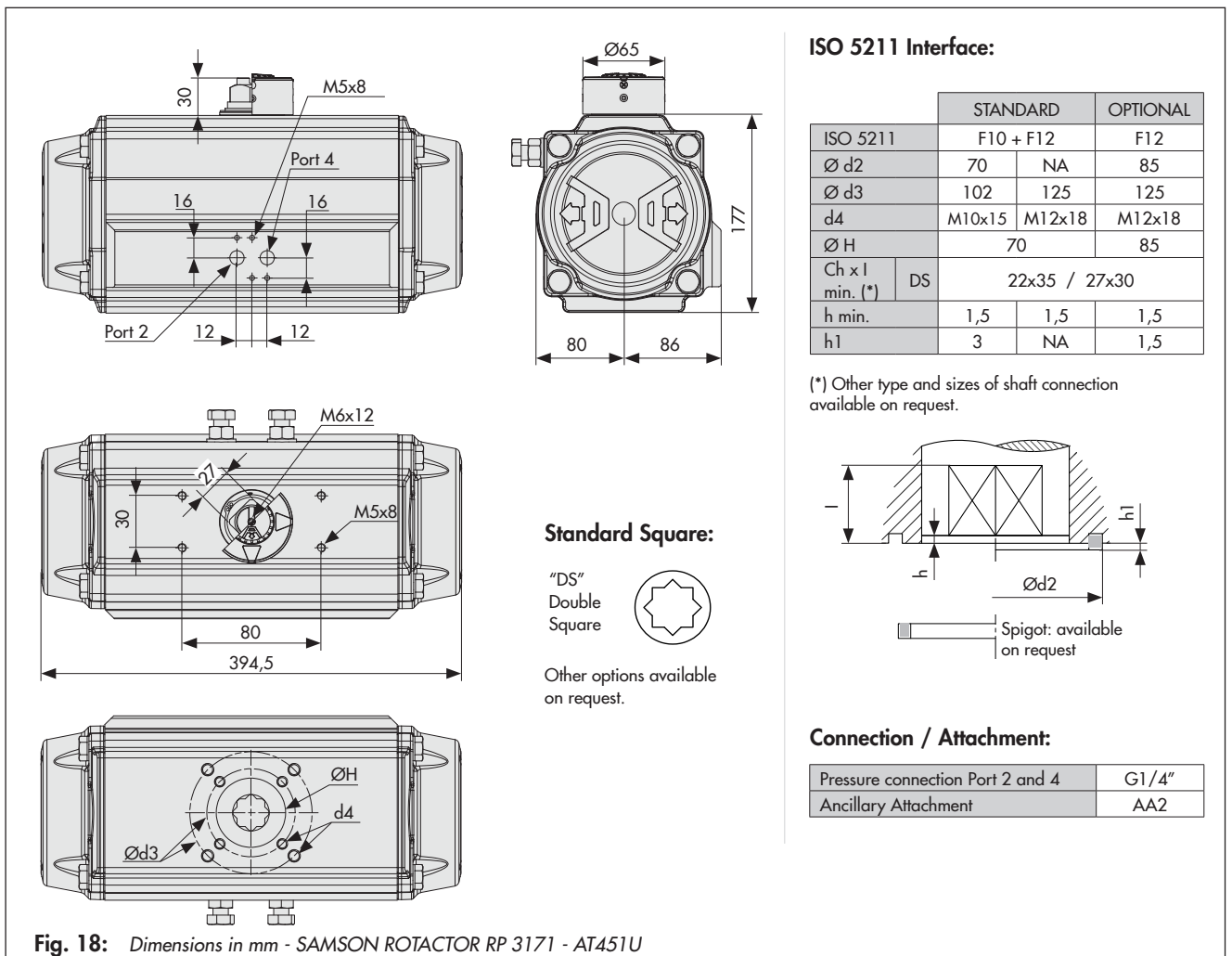


Fig. 18: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT451U

Table 10: SAMSON ROTACTOR RP 3171 - AT501U

Table 10.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	160	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				3,14	4,92	1,5	1,7	1,8	2,1	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant; please contact SAMSON for detailed information.

Table 10.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	284	340	397	454	477	511	567	624	681	794	908	

Table 10.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	171	118	228	174	285	231	342	288	364	310	398	344	455	401									166	112	19,5
S 06	149	84	206	141	262	198	319	255	342	277	376	311	433	368	489	425							199	135	
S 07			183	108	240	165	297	221	319	244	353	278	410	335	467	391	524	448					233	157	20,1
S 08					218	131	274	188	297	211	331	245	388	302	444	358	501	415	615	528			266	180	
S 09							252	155	275	178	309	212	365	268	422	325	479	382	592	495	706	609	299	202	20,7
S 10											286	178	343	235	400	292	456	349	570	462	683	575	332	224	
S 11													320	202	377	259	434	315	547	429	661	542	365	247	21,3
S 12															355	225	411	282	525	396	638	509	399	269	

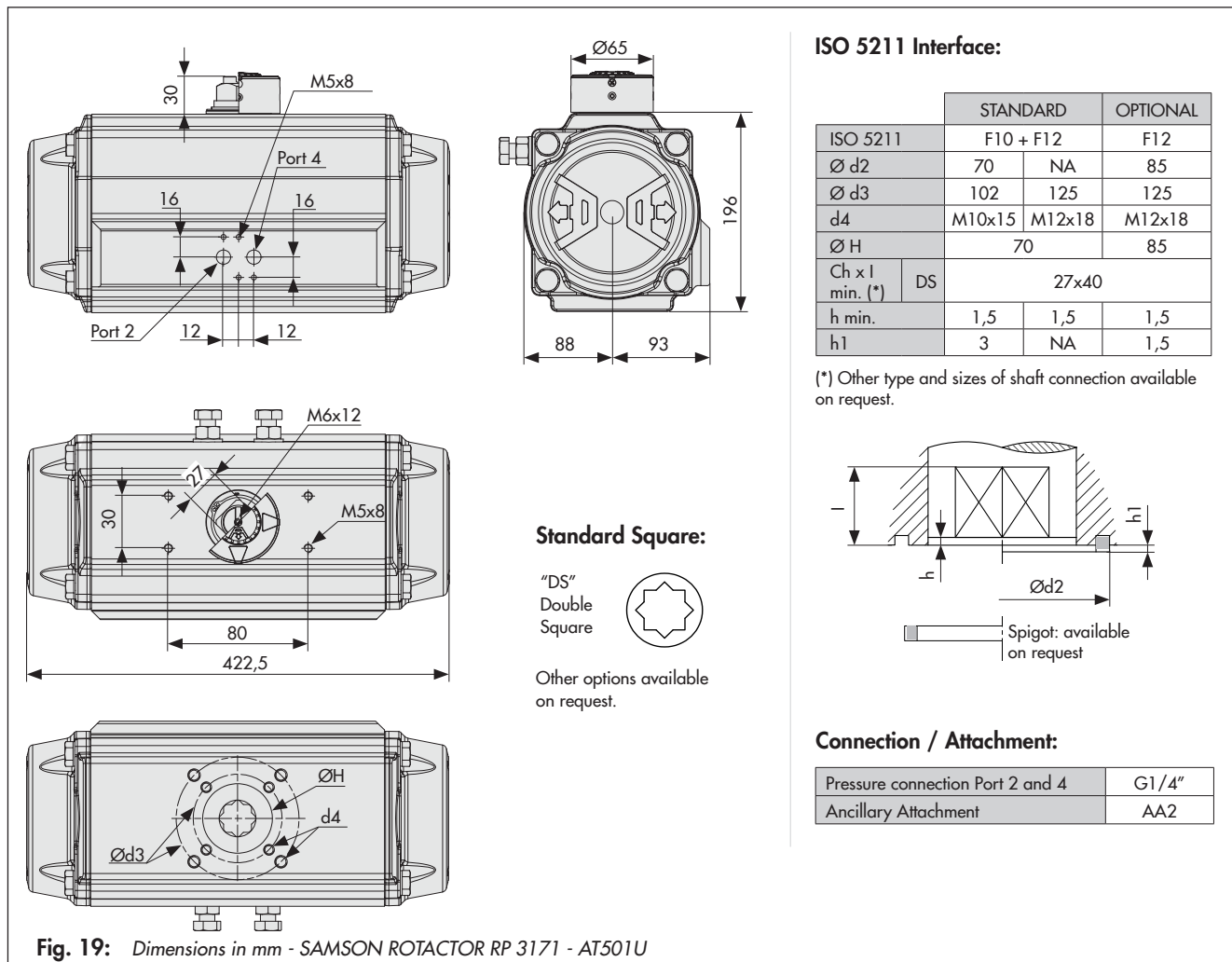


Fig. 19: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT501U

Table 11: SAMSON ROTACTOR RP 3171 - AT551U

Table 11.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	180	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				4,26	6,89	2,0	2,2	2,4	2,8	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 11.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	383		459		536		613		643		689		766		842		919		1072		1225		24,3

Table 11.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke 90° 0°	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°			
S 05	225	146	301	223	378	299	455	376	485	406	531	452	608	529									237	158	28,2
S 06	193	99	270	175	346	252	423	329	454	359	500	405	576	482	653	558							284	190	
S 07			238	128	315	205	391	281	422	312	468	358	544	434	621	511	698	587					332	221	29,6
S 08					283	157	360	234	390	264	436	310	513	387	589	464	666	540	819	693			379	253	
S 09							328	186	359	217	405	263	481	340	558	416	634	493	788	646	941	799	426	285	31,0
S 10											373	216	450	292	526	369	603	445	756	599	909	752	474	316	
S 11													418	245	495	321	571	398	724	551	877	704	521	348	32,4
S 12														463	274	540	351	693	504	846	657	568	379		

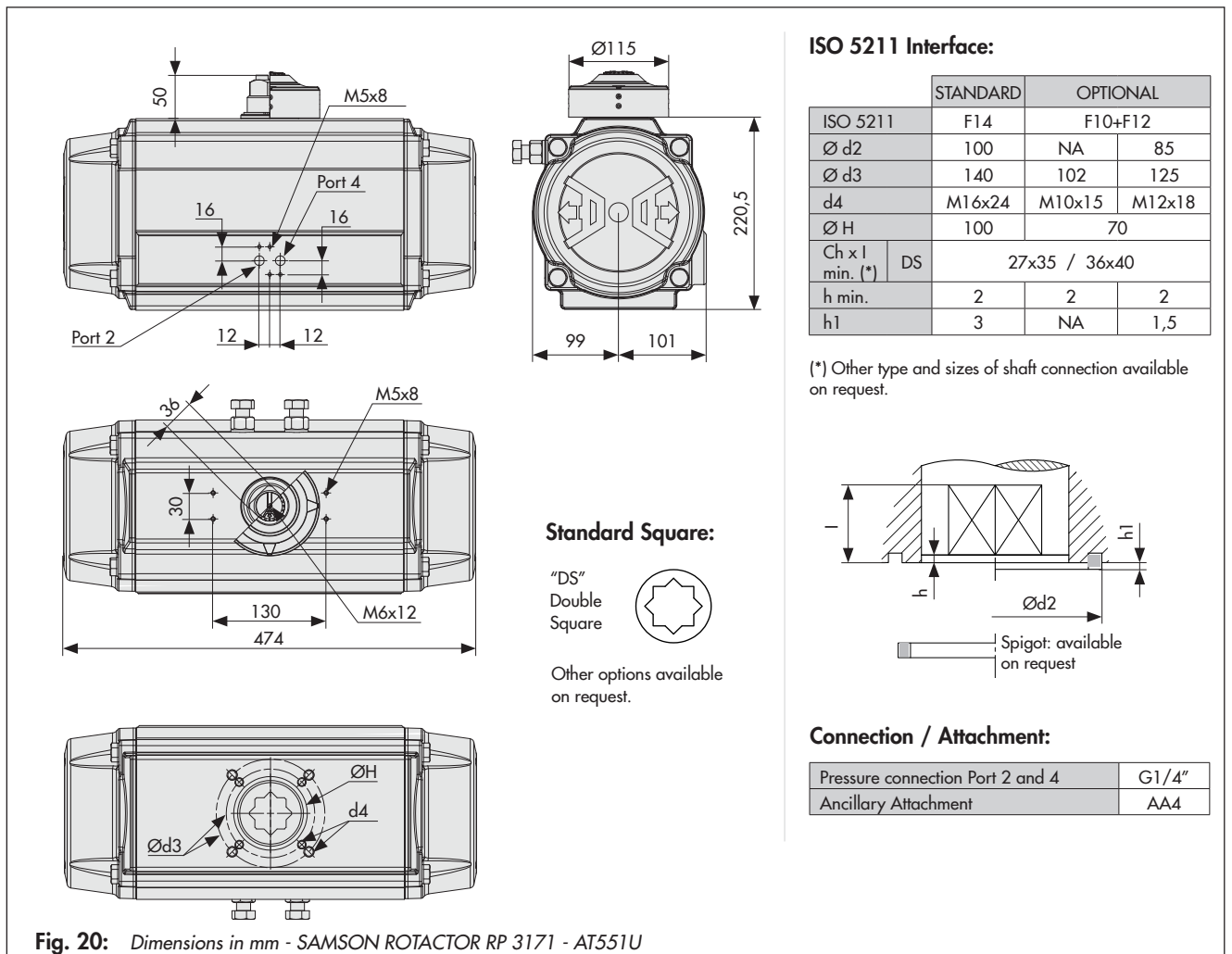


Fig. 20: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT551U

Table 12: SAMSON ROTACTOR RP 3171 - AT601U

Table 12.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	200	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				5,94	9,46	2,7	3,2	3,5	4,0	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 12.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	532	638	745	851	893	957	1064	1170	1276	1489	1702	

Table 12.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	319	217	426	323	532	430	638	536	681	578	745	642	851	749									315	213	38,6
S 06	277	154	383	260	489	367	596	473	638	515	702	579	808	686	915	792							378	255	
S 07			341	197	447	304	553	410	596	453	660	516	766	623	872	729	979	835					441	298	40,1
S 08					404	241	511	347	553	390	617	453	723	560	830	666	936	772	1149	985			504	340	
S 09							468	284	511	327	575	390	681	497	787	603	894	709	1106	922	1319	1135	567	383	41,7
S 10											532	327	638	434	745	540	851	646	1064	859	1277	1072	630	425	
S 11													596	371	702	477	809	583	1021	796	1234	1009	693	468	43,2
S 12															660	414	766	520	979	733	1192	946	756	510	

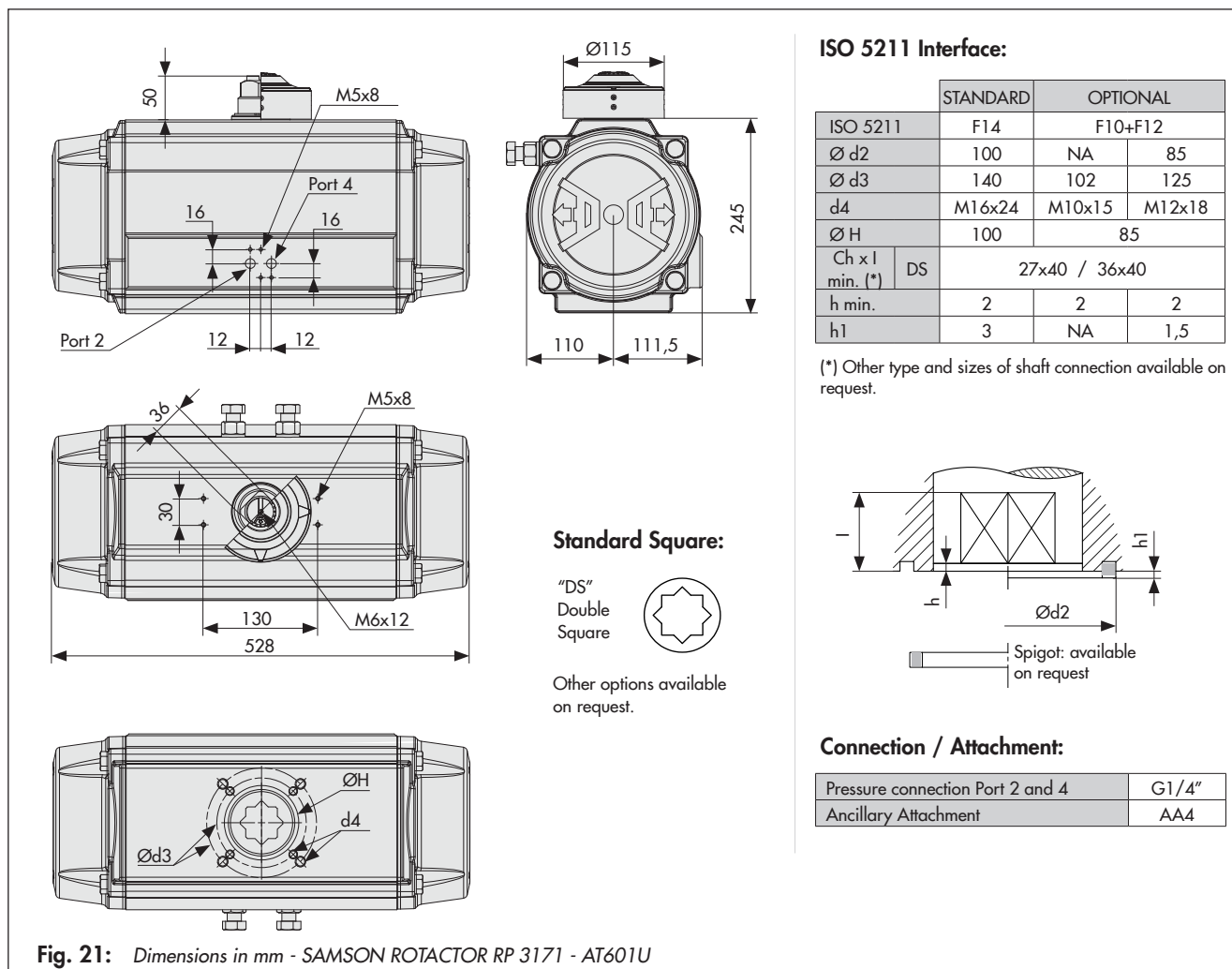


Fig. 21: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT601U

Table 13: SAMSON ROTACTOR RP 3171 - AT651U

Table 13.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
				opening	closing	Double acting		Spring return		ST	HT	LLT2
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	240	opening	closing	opening	closing	opening	closing	-40 to +80	-15 to +150	-60 to +80
				10	15,2	3,5	4,0	4,1	4,6			

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.
²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 13.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	893		1072		1251		1430		1501		1608		1787		1966		2144		2502		2859		54,6

Table 13.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	533	372	712	551	890	730	1069	908	1141	980	1248	1087	1426	1266									521	360	61,2
S 06	461	268	640	447	818	625	997	804	1068	876	1176	983	1354	1162	1533	1340							625	433	
S 07			568	343	746	521	925	700	996	771	1104	879	1282	1057	1461	1236	1640	1415					730	505	63,6
S 08					674	417	853	596	924	667	1032	774	1210	953	1389	1132	1568	1310	1925	1668			834	577	
S 09							781	491	852	563	959	670	1138	849	1317	1028	1495	1206	1853	1564	2210	1921	938	649	66,0
S 10											887	566	1066	745	1245	923	1423	1102	1781	1459	2138	1817	1042	721	
S 11													994	640	1173	819	1351	998	1709	1355	2066	1713	1146	793	68,4
S 12															1101	715	1279	894	1637	1251	1994	1608	1251	865	

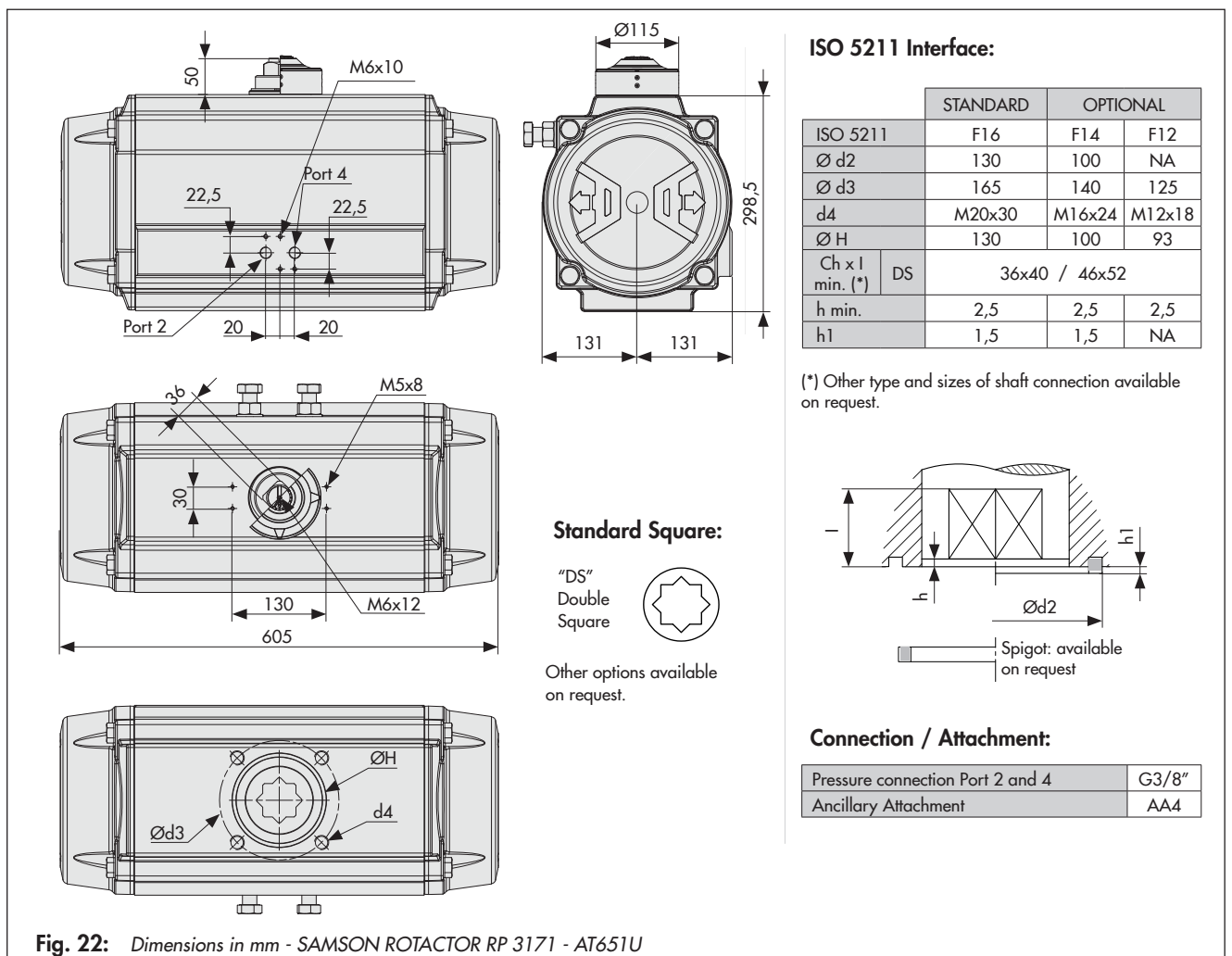


Fig. 22: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT651U

Table 14: SAMSON ROTACTOR RP 3171 - AT701U

Table 14.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	265	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
				14,5	21,38	4,0	4,5	4,5	5,0	-40 to +80	-15 to +150	-60 to +80

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 14.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	1297	1556	1815	2075	2179	2334	2594	2853	3112	3631	4150	

Table 14.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	751	496	1011	755	1270	1015	1529	1274	1633	1378	1789	1533	2048	1793									801	546	85,1
S 06	642	336	902	595	1161	854	1420	1114	1524	1217	1680	1373	1939	1632	2198	1892							961	655	
S 07			792	435	1052	694	1311	954	1415	1057	1570	1213	1830	1472	2089	1732	2349	1991					1121	764	88,3
S 08					943	534	1202	793	1306	897	1461	1053	1721	1312	1980	1571	2239	1831	2758	2350			1281	873	
S 09							1093	633	1197	737	1352	893	1612	1152	1871	1411	2130	1671	2649	2189	3168	2708	1442	982	91,5
S 10											1243	732	1503	992	1762	1251	2021	1510	2540	2029	3059	2548	1602	1091	
S 11													1393	832	1653	1091	1912	1350	2431	1869	2950	2388	1762	1200	94,7
S 12															1544	931	1803	1190	2322	1709	2840	2228	1922	1309	

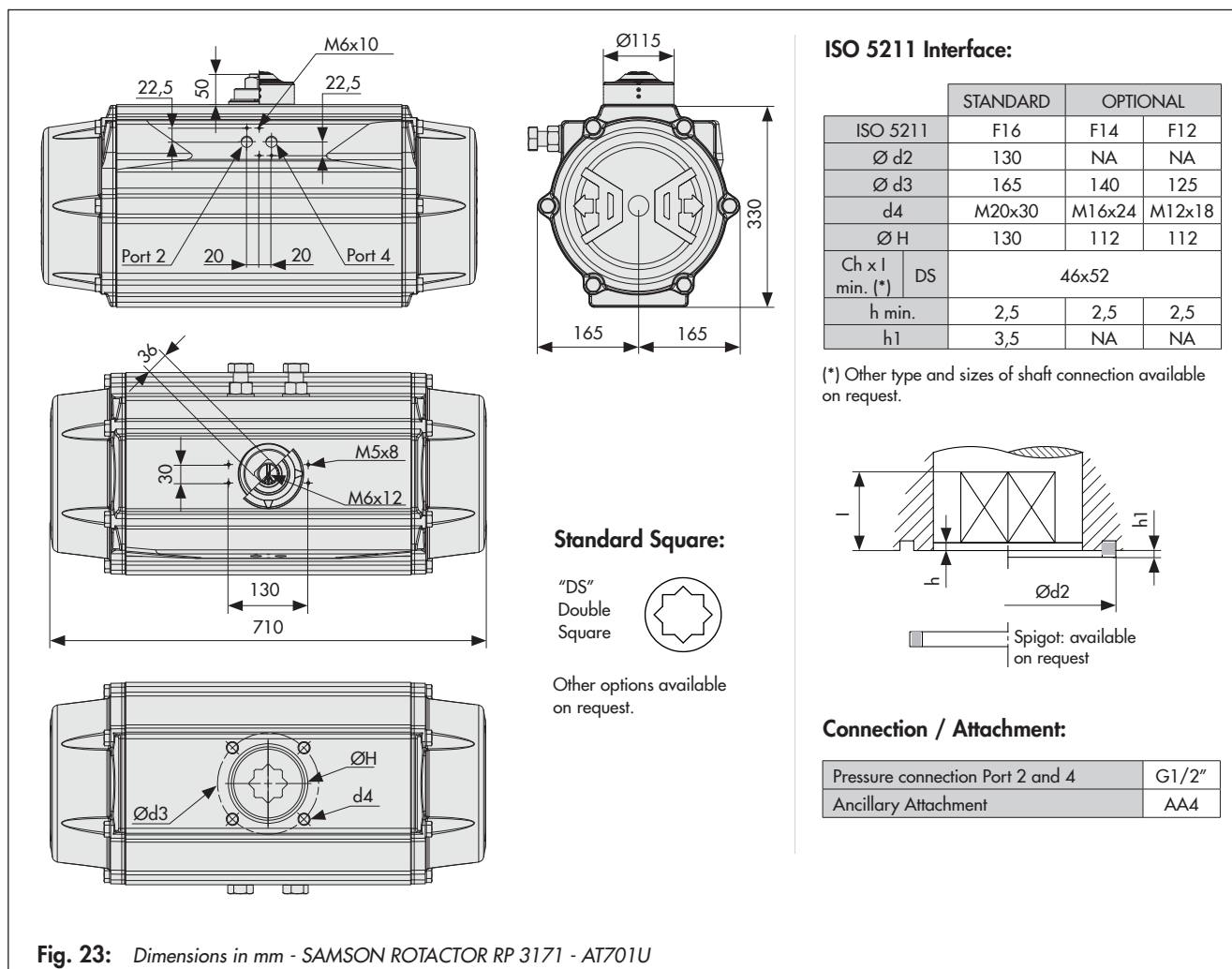


Fig. 23: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT701U

Table 15: SAMSON ROTACTOR RP 3171 - AT751U

Table 15.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	300	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
								20	33	5,0	6,0	6,0

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 15.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Approx weight (kg)
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	1795	2154	2513	2872	3015	3231	3590	3949	4308	5026	5744	118

Table 15.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	8 bar	Spring Stroke 90° 0°	Approx weight (kg)															
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°																	
S 05	1064	703	1423	1062	1782	1421	2141	1780	2284	1924	2500	2139	2859	2498									1092	731	133			
S 06	918	485	1277	844	1636	1203	1995	1562	2138	1706	2354	1921	2713	2280	3072	2639										1310	877	
S 07			1131	626	1489	985	1848	1344	1992	1487	2207	1703	2566	2062	2925	2421	3284	2780								1528	1023	138
S 08					1343	766	1702	1125	1846	1269	2061	1484	2420	1843	2779	2202	3138	2561	3856	3279							1746	
S 09							1556	907	1700	1051	1915	1266	2274	1625	2633	1984	2992	2343	3710	3061	4428	3779	1965	1316			144	
S 10											1769	1048	2128	1407	2487	1766	2846	2125	3564	2843	4282	3560	2183	1462				
S 11															1982	1188	2341	1547	2700	1906	3418	2624	4135	3342	2401	1608	149	
S 12																	2194	1329	2553	1688	3271	2406	3989	3124	2620	1754		

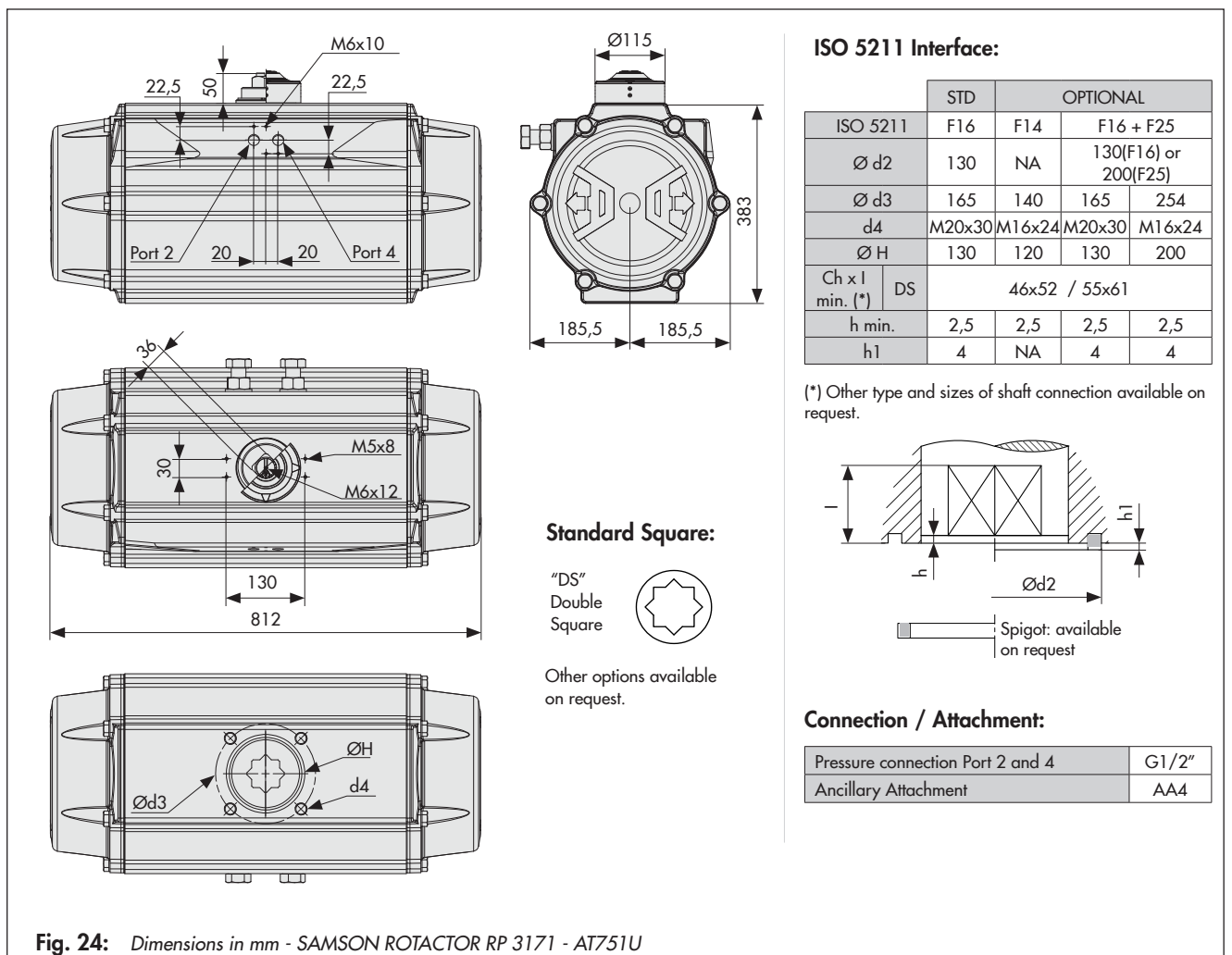


Fig. 24: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT751U

Table 16: SAMSON ROTACTOR RP 3171 - AT801U

Table 16.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾				Operating temperature range (°C) ²⁾		
						Double acting		Spring return				
8 bar	0° - 90°	For 1° adj. 1/4 Turn needed	330	opening	closing	opening	closing	opening	closing	ST	HT	LLT2
								25	40	6,0	7,0	7,5

¹⁾ The values refer to specific test conditions; please contact SAMSON for detailed information.

²⁾ Every temperature range option requires proper components and lubricant. please contact SAMSON for detailed information.

Table 16.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Approx weight (kg)
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	
D	2252		2703		3153		3604		3784		4054		4504		4955		5405		6306		7207	127	

Table 16.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke	Approx weight (kg)	
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°			
S 05	1332	1014	1783	1465	2233	1915	2684	2365	2864	2546	3134	2816	3585	3266									1238	920	146
S 06	1149	767	1599	1217	2049	1667	2500	2118	2680	2298	2950	2568	3401	3019	3851	3469							1486	1104	
S 07			1415	969	1865	1420	2316	1870	2496	2050	2766	2321	3217	2771	3667	3222	4118	3672					1733	1288	153
S 08					1682	1172	2132	1623	2312	1803	2582	2073	3033	2524	3483	2974	3934	3424	4835	4325			1981	1472	
S 09							1948	1375	2128	1555	2398	1825	2849	2276	3299	2726	3750	3177	4651	4078	5551	4978	2229	1656	160
S 10											2215	1578	2665	2028	3115	2479	3566	2929	4467	3830	5386	4731	2476	1839	
S 11													2481	1781	2931	2231	3382	2682	4283	3582	5184	4483	2724	2023	166
S 12															2748	1983	3198	2434	4099	3335	5000	4236	2971	2207	

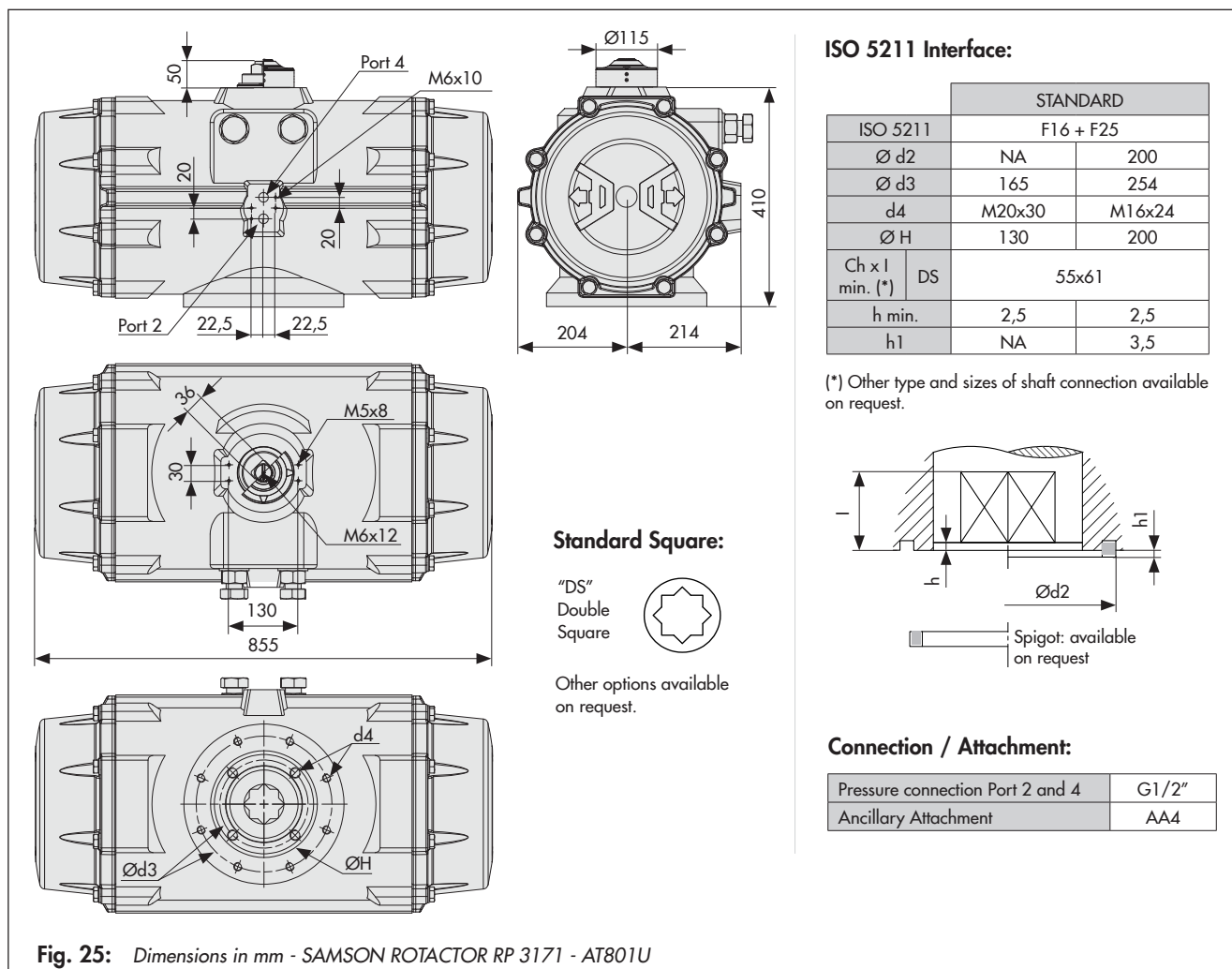


Fig. 25: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT801U

Table 17: SAMSON ROTACTOR RP 3171 - AT1001U

Table 17.1: Technical data

Max. Pressure	Standard Rotation	Stroke Adjustment Screw	Ø Chamber (mm)	Air volume (l)		Approx. Stroking time (sec.) ¹⁾								Operating temperature range (°C) ²⁾					
						Double acting				Spring return									
D	7 bar	0° - 90°	For 1° adj. 1/4 Turn needed	420	opening	closing	Cv 0,9		Cv 6,2		Cv 0,9		Cv 6,2		ST	HT	LLT2		
S	8 bar						opening	closing	opening	closing	opening	closing	opening	closing				opening	closing
							49	84	8	9	3	3,8	10	11				2,5	2,6

¹⁾ The values refer to specific test conditions and with Supply/Exhaust system Cv shown in the table; please contact AIR TORQUE for detailed information.

WARNING – considering the actuator air volumes, to operate the actuator in safety conditions and avoid risk of damage, respect the following: Supply/Exhaust system Cv ≥ 2,1 / Sizing Safety Factor ≥ 1,3

²⁾ Every temperature range option requires proper components and lubricant. please contact AIR TORQUE for detailed information.

Table 17.2: Nominal output torque for Double acting actuators (Nm)

Pressure	2,5 bar	3 bar	3,5 bar	4 bar	4,2 bar	4,5 bar	5 bar	5,5 bar	6 bar	7 bar	Approx weight (kg)
	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	0° 90°	
D	4169	5003	5837	6671	7005	7505	8339	9173	10007	11674	170

Table 17.3: Nominal output torque for Single acting actuators (Nm)

Pressure	2,5 bar		3 bar		3,5 bar		4 bar		4,2 bar		4,5 bar		5 bar		5,5 bar		6 bar		7 bar		8 bar		Spring Stroke 90° 0°	Approx weight (kg)	
	Spring Set	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°				
S 05	2474	1695	3308	2529	4142	3362	4976	4196	5310	4530	5810	5030	6644	5864									2475	1695	203
S 06	2135	1200	2969	2034	3803	2867	4637	3701	4971	4035	5471	4535	6305	5369	7139	6203							2970	2034	
S 07			2630	1539	3464	2373	4298	3206	4632	3540	5132	4040	5966	4874	6800	5708	7633	6542					3465	2373	
S 08					3125	1878	3959	2711	4292	3045	4793	3545	5627	4379	6461	5213	7294	6047	8962	7715			3960	2712	
S 09							3620	2217	3953	2550	4454	3050	5288	3884	6122	4718	6955	5552	8623	7220	10291	8887	4455	3051	224
S 10											4115	2555	4949	3389	5783	4223	6616	5057	8284	6725	9952	8393	4949	3390	
S 11													4610	2894	5444	3728	6277	4562	7945	6230	9613	7898	5444	3729	236
S 12																5105	3233	5938	4067	7606	5735	9274	7403	5939	

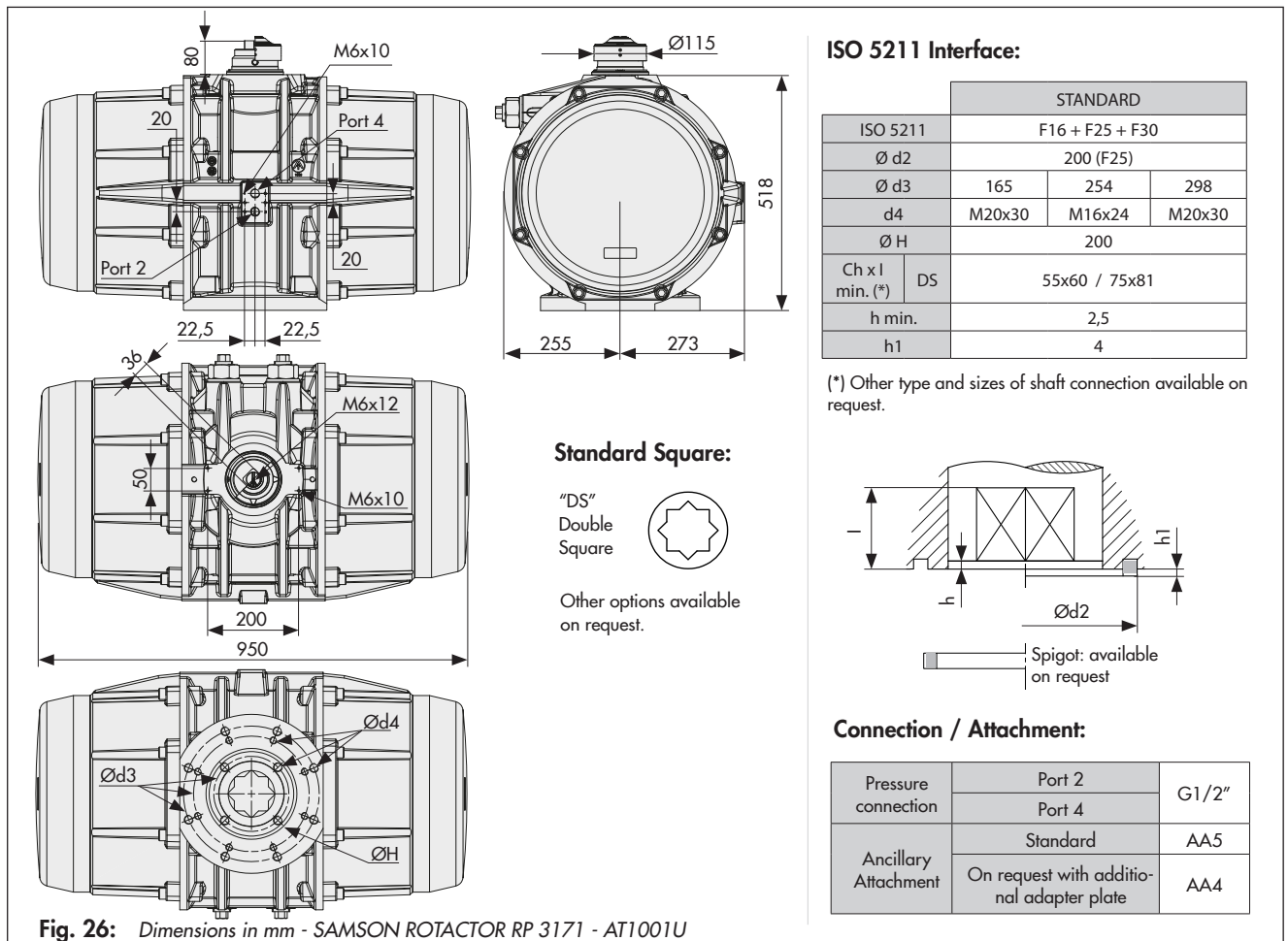


Fig. 26: Dimensions in mm - SAMSON ROTACTOR RP 3171 - AT1001U

Complete Spare parts

Parts list and quantity

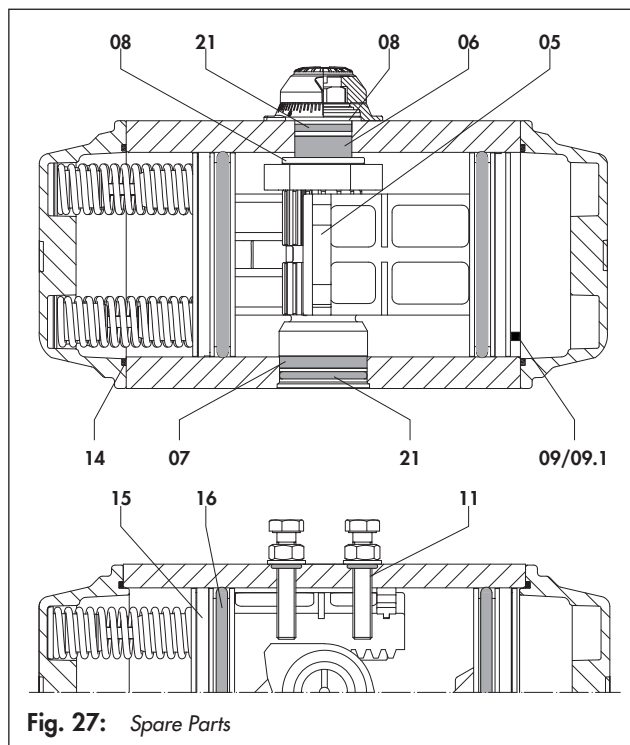


Fig. 27: Spare Parts

Complete Spare Parts		
Part n°	Q.ty	Description
05	2	BEARING (Piston back) / for AT045U → AT751U models
	4	BEARING (Piston back) / for AT1001U model
06	1	BEARING (Piston top)
07	1	BEARING (Piston bottom)
08	1	THRUST BEARING (Pinion) / for AT045U model
	2	THRUST BEARING (Pinion) / for AT051U → AT1001U models
09	2	PLUG / for AT045U → AT751U models
09.1	2	"O" RING PLUG / for AT801U → AT1001U models
11	2	"O" RING (Stop screw) / not applicable for model AT045U
14	2	"O" RING (End cap)
15	2	BEARING (Piston head)
16	2	"O" RING (Piston)
20	1	"O" RING (Pinion bottom)
21	1	"O" RING (Pinion top)

SAMSON lubricant grease type			
Operating temperature	ST	LLT2	HT
Lubricant code	GSTD	GLLT2	GHT

Spare Parts kits code

Actuator model	Operating Temperature Range Options		
	STANDARD kits code from -40°C (-40°F) to +80°C (+176°F)	LLT2 kits code from -60°C (-76°F) to +80°C (+176°F)	HT kits code from -15°C (5°F) to +150°C (+302°F)
AT045U	CRK-045#SPN..C	CRK-045#LLSPSC	CRK-045#HSPFC
AT051U	CRK-050#SPN..C	CRK-050#LLSPSC	CRK-050#HSPFC
AT101U	CRK-100#SPN..C	CRK-100#LLSPSC	CRK-100#HSPFC
AT201U	CRK-200#SPN..C	CRK-200#LLSPSC	CRK-200#HSPFC
AT251U	CRK-250#SPN..C	CRK-250#LLSPSC	CRK-250#HSPFC
AT301U	CRK-300#SPN..C	CRK-300#LLSPSC	CRK-300#HSPFC
AT351U	CRK-350#SPN..C	CRK-350#LLSPSC	CRK-350#HSPFC
AT401U	CRK-400#SPN..C	CRK-400#LLSPSC	CRK-400#HSPFC
AT451U	CRK-450#SPN..C	CRK-450#LLSPSC	CRK-450#HSPFC
AT501U	CRK-500#SPN..C	CRK-500#LLSPSC	CRK-500#HSPFC
AT551U	CRK-550#SPN..C	CRK-550#LLSPSC	CRK-550#HSPFC
AT601U	CRK-600#SPN..C	CRK-600#LLSPSC	CRK-600#HSPFC
AT651U	CRK-650#SPN..C	CRK-650#LLSPSC	CRK-650#HSPFC
AT701U	CRK-700#SPN..C	CRK-700#LLSPSC	CRK-700#HSPFC
AT751U	CRK-750#SPN..C	CRK-750#LLSPSC	CRK-750#HSPFC
AT801U	CRK-800#SPN..C	CRK-800#LLSPSC	CRK-800#HSPFC
AT1001U	CRK-1000#SPN..C	CRK-1000#LLSPSC	CRK-1000#HSPFC

For maintenance and/or spare parts refer to applicable EB 8325 SAMSON manual instruction.

Ordering text

The product information in the How To Order are transferred in the product label and in other SAMSON documents (as order acknowledgment, packing list, invoice and certificates). The position of the information can change respect the How To Order. Contact SAMSON for further details.

1	SAMSON ROTACTOR RP 3171 actuator models:		AT045U / AT051U / AT101U / AT201U / AT251U / AT301U / AT351U / AT401U / AT451U / AT501U / AT551U / AT601U / AT651U / AT701U / AT751U / AT801U / AT1001U															
2	D: Double Acting							S: Single Acting										
3	Actuator model, series and rotation: 90° Rotation (Standard): AT045U to AT1001U 120° Rotation (only Double Acting): AT052U to AT752U							135° Rotation (only Double Acting): AT053U to AT753U 180° Rotation (Double Acting): AT058U to AT758U 180° Rotation (Spring Return): AT058U to AT758U										
4	(Blank): for standard actuator R50: 50% opening travel stop limitation (45° up to 90°) R100: 100% opening travel stop limitation (0° up to 90°) RC100: 100% closing travel stop limitation (from 90° up to 0°)							FM: fail mid 180° function 3PD: 3 positions function HCD: hydraulic dampening function										
5	(Blank): for standard actuator							FA: fast acting										
6	(Blank): for standard version (no lock-out capability)							K: lock-out capability										
7	Double acting actuators			Spring return actuators														
	(Blank)			AT045U Spring Set configuration: S1-1 / S1-2 / S2-2 / S2-3 / S3-3				AT051U Spring Set configuration: S1 / S2 / S3 / S4 / S5 / S6 / S7 / S8				AT101U → AT1001U Number of Spring: 05 to 12 spring for standard 90° rotation 10 to 24 spring only for 180° rotation						
8	ISO 5211 Flange																	
	Model	AT045U	AT051U	AT101U	AT201U	AT251U	AT301U	AT351U	AT401U	AT451U	AT501U	AT551U	AT601U	AT651U	AT701U	AT751U	AT801U	AT1001U
	Standard	F04	F04	F05 + F07	F05 + F07	F05 + F07	F07 + F10	F07 + F10	F07 + F10	F10 + F12	F10 + F12	F14	F14	F16	F16	F16	F16 + F25	F16 + F25 + F30
Options	F03	F03 + F05	F03+F05 F04+F07 F05	F04+F07 F05	F07	F05 + F07	F10	F10	F12	F12	F10 + F12	F10 + F12	F12	F12	F14	F16 + F25	-	-
9	G: air connection threads according to ISO 228 (BSPP)							N: air connection threads according to ANSI B1.20.1 (NPT)										
10	(Blank): no spigot							Y: spigot										
11	Protection level: A / E / X / V																	
12	(Blank): Actuator with standard seals suitable for -40°C (-40°F) to +80°C (+176°C)					HT: actuator construction suitable for -15°C (+5°F) to +150°C (+302°F)					LLT 2: construction suitable for -60°C (-76°F) to +80°C (+176°C)							
13	Standard (DS): XXDS							Optional connections: (available on request) S x d (D) → flat head dimensions W x d → double keys dimensions										
	Protection level	Available square dimensions and type (according to ISO 5211)																
		AT045U	AT051U	AT101U	AT201U	AT251U	AT301U	AT351U	AT401U	AT451U	AT501U	AT551U	AT601U	AT651U	AT701U	AT751U	AT801U	AT1001U
"A"	9DS 11DS	11DS	14DS	14DS 17DS	17DS	17DS 22DS	17DS 22DS	22DS 27DS	22DS 27DS	27DS	27DS 36DS	27DS 36DS	36DS 46DS	46DS	46DS 55DS	55DS	55DS 75DS	
"E"	-	9DS 11DS	11DS 14DS	14DS 17DS	17DS	17DS 22DS	17DS 22DS	22DS 27DS	22DS 27DS	27DS	27DS 36DS	27DS 36DS	36DS 46DS	46DS	46DS 55DS	55DS	55DS 75DS	
14	Position Indicator: MF (multifunction indicator)																	
15	Actuator assembly type																	
	(Blank): Standard assembly type ST, clockwise to close (spring to close) and close indication at air failure condition (or with pressurized port 4 for double acting) for in line mounting.			STR: Clockwise to close (spring to close) and close indication at air failure condition (or with pressurized port 4 for double acting) for across line mounting.				LF: Counterclockwise to close (spring to open) and open indication at air failure condition (or with pressurized port 4 for double acting) for across line mounting.				LFR: Counterclockwise to close (spring to open) and open indication at air failure condition (or with pressurized port 4 for double acting) for in line mounting.						

Examples of model designation

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AT201U	S	90°	R100	FA	K	12	F05+F07	G	-	A	HT	14DS	MF	LF
PNEUMATIC ACTUATOR model AT201U, Spring Return S, rotation 90°, R100 travel stop adjustment, FA Fast Acting, K lockout capability, number of spring 12, ISO flange F05+F07, GAS air connection G, without spigot, protection level A, high operating temperature HT, Ch14 double square drive shaft 14DS, Black Multifunction indicator MF, Counterclockwise rotation LF.														
REFER TO TECHNICAL DATA SHEETS FOR UPDATED DIMENSIONS AND MATERIALS.														