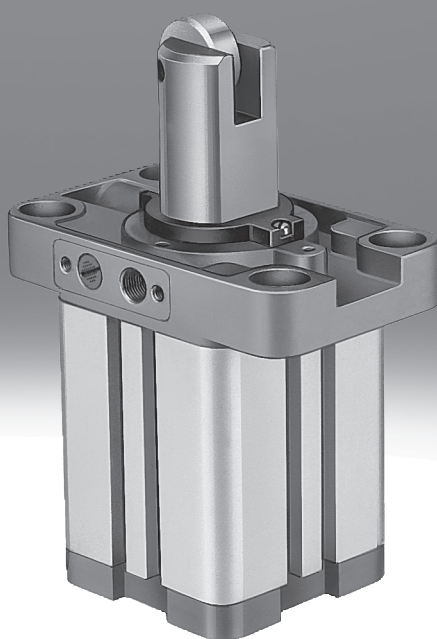


Stopper cylinder STAF

FESTO

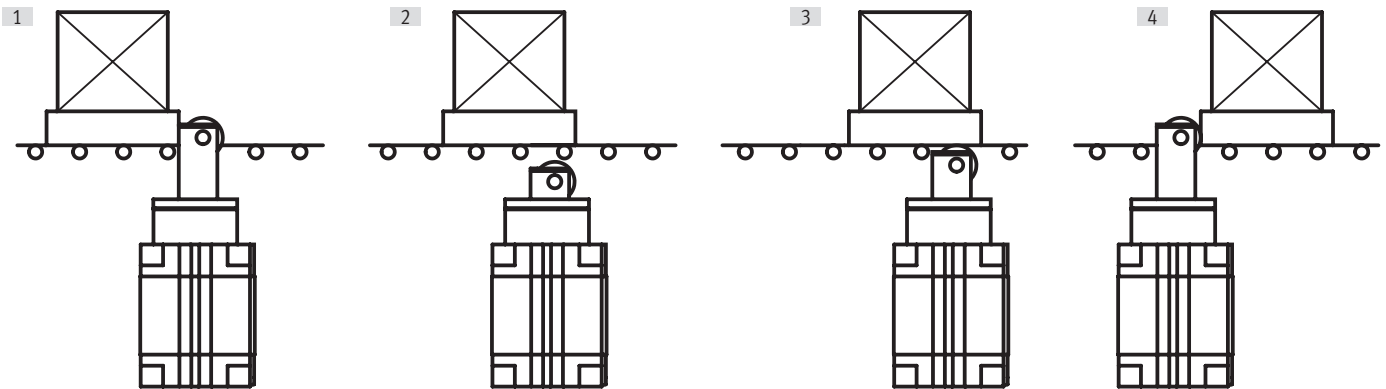


Characteristics

At a glance

- Single-acting or double-acting
- Quick and easy set-up of conveyor lines
- Workpiece carriers, pallets and packages weighing up to 150 kg can be safely stopped
- Simple actuation via valve terminal (e.g. together with other cylinders at one installation site)
- Flange-mounted solenoid valve permits fast actuation even at great distances and with individual stopper cylinders

Overview



Function sequence

- [1] Sudden braking of the workpiece carrier via the piston rod.
- [2] The workpiece carrier is released by actuating the cylinder.
- [3] The cylinder is then advanced by spring force or compressed air until the roller makes contact with the workpiece carrier. The workpiece carrier continues to move forward.
- [4] After the workpiece carrier has passed, the cylinder moves to the end position. The next workpiece carrier can then be stopped.

Type code

001	Series	004	Cushioning
STAF	Stopper cylinder with flange mounting, single-or double-acting	P	Elastic cushioning rings/plates on both sides
002	Piston diameter [mm]	005	Position sensing
80	80	A	For proximity sensor
003	Stroke [mm]	006	Version
...	30 ... 40	R	Roller version

Datasheet

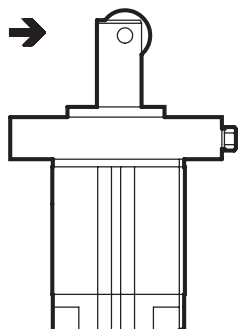
General technical data

Piston diameter	80 mm	
Stroke	30 mm	40 mm
Design	Piston, Piston rod with roller	
Protection against torque/ guide	Flattened piston rod	
Mode of operation	Single-acting, Pulling	
Variants	Piston rod at one end	
Cushioning	Elastic cushioning rings/plates at both ends	
Position detection	Via proximity switch	
Type of mounting	With through-hole	
Mounting position	optional	
Product weight	5,100 g	5,350 g

Operating and environmental conditions

Operating pressure	0.1 ... 1 MPa
Operating pressure	1 ... 10 bar
Operating pressure	14.5 ... 145 psi
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)
Ambient temperature	0 ... 60°C
Corrosion resistance class CRC	2 - Moderate corrosion stress
Operating medium	Compressed air to ISO 8573-1:2010 [7:::]

Forces



The impact force refers here to the maximum of a force-time curve with unknown details during impact/braking of the moving mass. It acts perpendicularly to the direction of motion of the piston rod.

By treating the elastic components as linear springs, the permissible impact force can be used to calculate the permissible impact energy so that the right stopper can be selected.

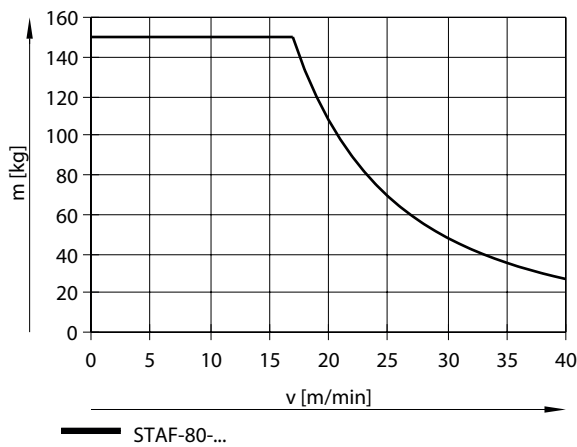
The stopper must not be switched below this force. Depending on the type of load to be stopped, it is a good idea to provide an elastic buffer to cushion the impact, reduce the noise, and optimise the impact energy.

Piston diameter	80 mm	
Stroke	30 mm	40 mm
Impact force	14,600 N	13,300 N
Permissible lateral force during switching operation	4,500 N	4,000 N

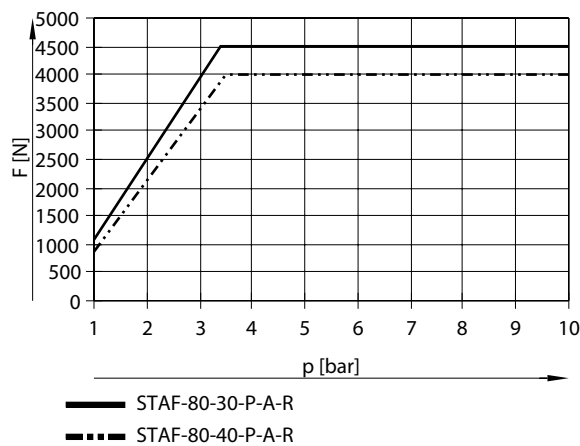
Materials

Material cover	Die-cast aluminium
Material cylinder barrel	Smooth-anodised wrought aluminium alloy
Material piston rod	High-alloy stainless steel
Material roll	Galvanised steel
Material seals	NBR, TPE-U(PU)
LABS (PWIS) conformity	VDMA24364-B2-L
Note on materials	RoHS-compliant

Datasheet

Permissible load m as a function of conveyor speed v 

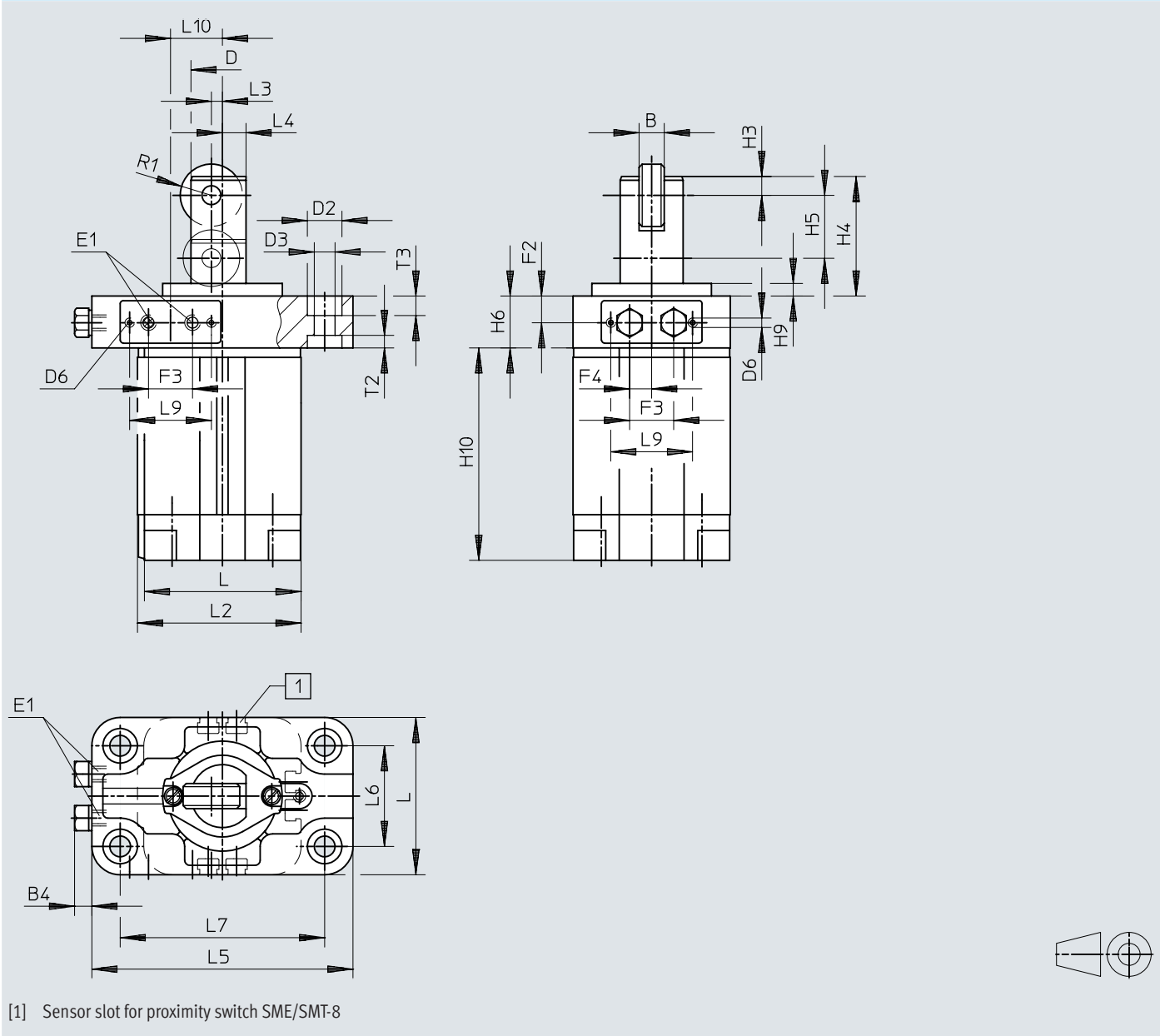
The values in the diagram opposite are based on the assumption that the work-piece carrier is fitted with an elastic buffer with a deformation of 1 mm.

Permissible lateral force F_q during switching as a function of pressure p 

The „permissible lateral force during switching operation“ refers here to the force which is still applied perpendicularly to the direction of movement of the piston rod even after the end of the impact or braking process, e.g. as a result of belts that are still running or the downhill force of a steep raceway. The force acts statically. The stopper can be switched below this force. A certain minimum pressure must be applied in order to guarantee the cylinder function.

Dimensions

Dimensions – Flange mounting Download CAD data www.festo.com



	L ¹⁾	B	B4	D ∅	D2 ∅	D3 ∅	D6	E1	F2	F3	F4	H3	H4	H5	H6
STAF-80	30	18	4,5	50	18	11	M4	G1/8	11	17	4,5	10	63	30	22
	40												73	40	

	L ¹⁾	H9	H10	L	L2	L3	L4	L5	L6	L7	L9	L10	R1	T2	T3
STAF-80	30	8	119	107	111	11	18	160	63	135	36	18,5	18	6	6
	40		129												

1) Stroke

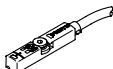
Ordering data

STAF...				
	Piston diameter	Stroke	Part no.	Type
	80 mm	30 mm	164886	STAF-80-30-P-A-R
		40 mm	164894	STAF-80-40-P-A-R

Accessories

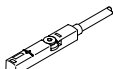
Proximity switch SMT-8 for T-slot, magneto-resistive

Link [smt](#)

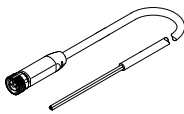
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	574339	SMT-8M-A-NS-24V-E-0,3-M8D
		3-wire PNP N/C contact	Open end	7.5 m	574340	SMT-8M-A-PO-24V-E-7,5-OE
				2.5 m	574335	SMT-8M-A-PS-24V-E-2,5-OE
		3-wire PNP N/O contact	Open end	2.5 m	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	574334	SMT-8M-A-PS-24V-E-0,3-M8D

Proximity switch SME-8M for T-slot, magnetic reed

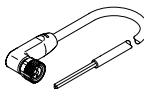
Link [sme](#)

	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire N/O contact	Open end	2.5 m	543862	SME-8M-DS-24V-K-2,5-OE
				5 m	543863	SME-8M-DS-24V-K-5,0-OE
			Plug M8, A-coded	0.3 m	543861	SME-8M-DS-24V-K-0,3-M8D
		2-wire N/O contact	Open end	2.5 m	543872	SME-8M-ZS-24V-K-2,5-OE

Connecting cables NEBA, straight

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables NEBA, angled

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3

Slot cover ABP-S

	Packaging quantity [pieces]	Material housing	Note on materials	Product weight	Part no.	Type
	2	ABS	RoHS-compliant	13 g	563360	ABP-5-S1