

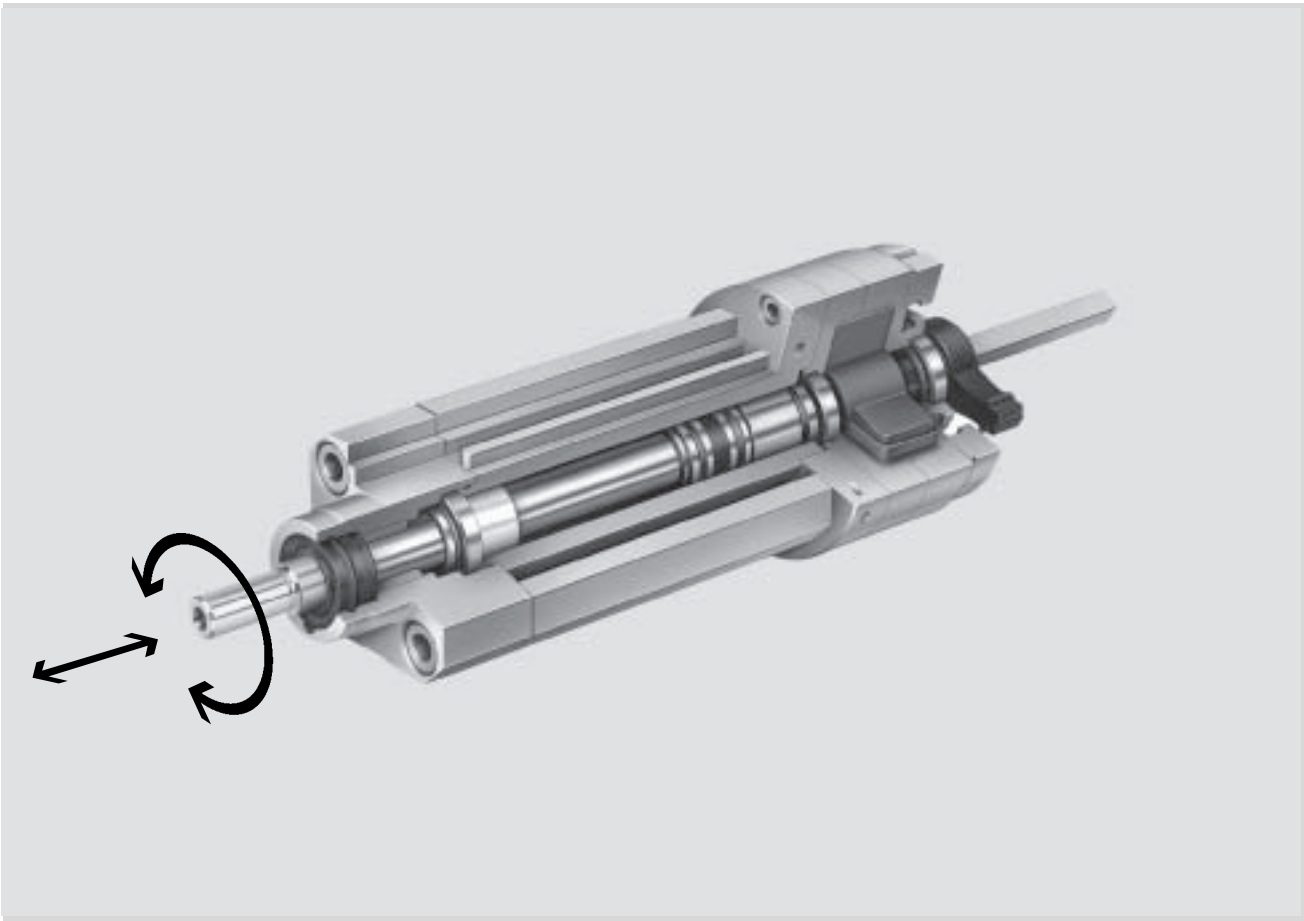


- Simultaneous swivel and linear motion
- With position sensing in both directions
- Backlash-free power transmission
- A broad range of accessories

# Swivel/linear units DSL

Features

FESTO



## Multifunctional applications

- With plain bearing
- With recirculating ball bearing guide (KF)
- Swivel motion of up to 270°
- Linear motion of up to 160 mm stroke
- Position sensing in both directions of movement
- Both movement types can be controlled individually or simultaneously
- Swivel angle can be set in any desired position
- Infinitely adjustable
- Precision adjustment in the end positions
- High rotational energy possible thanks to direct-mounting, self-adjusting shock absorbers
- Compressed air connections at one end for quick, clear-cut tubing connections
- High precision thanks to recirculating ball bearing guide (KF)
  - Backlash-free rotation
  - Resists torque loads even during linear motion



Calculation of mass moment of inertia

[www.festo.com/en/engineering](http://www.festo.com/en/engineering)

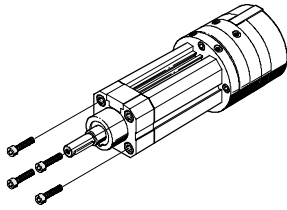
# Swivel/linear units DSL



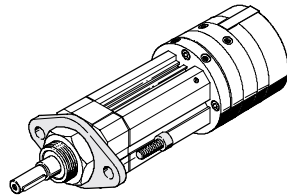
Features

## Mounting options

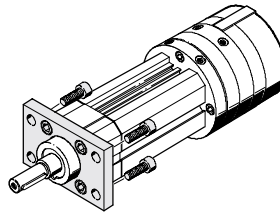
Direct mounting



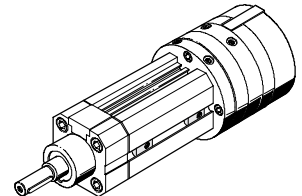
Flange mounting  
FBN-20/25



Flange mounting  
FNG



Slot nuts in linear profile  
NST



Piston  $\varnothing$  16 mm:  
On DSL-16 the mounting thread on the bearing cap complies with DIN ISO 6432.

Piston  $\varnothing$  20 ... 40 mm:  
Mounting hole pattern to DIN ISO 6431, VDMA 24 562 and NF E 49 003.1.  
Facilitates use of cylinder mountings from the standard cylinder range.

## Position sensing

Proximity sensor and mounting kit

The inductive proximity sensors can be used with either a fixed stop or integrated shock absorbers if the WSM mounting kit is used.

With fixed stop



With shock absorber



## End-position cushioning

Scope of delivery

Depending upon version, fixed stop (FF), shock absorber retainer and shock absorber (CL, CR, CC) are included in the scope of delivery of the swivel/linear unit.

The protective cap cannot be fitted on versions CL, CR and CC (with shock absorber), and is not included in the scope of delivery.

Swivel/linear units can be modified or retrofitted at any time with the appropriate accessories.

Basic variant FF fixed stop at both ends



Variant CL shock absorber left fixed stop right



Variant CR shock absorber right fixed stop left



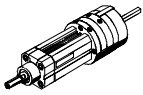
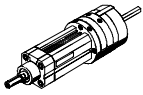
Variant CC shock absorber at both ends



# Swivel/linear units DSL



Product range overview

Function	Design	Type	Piston $\varnothing$	Stroke	Through piston rod S2	Through, hollow piston rod S20	
			[mm]	[mm]			
Double-acting	<b>with plain bearing guide</b>						
		DSL	16, 20, 25, 32	25, 40, 50, 80, 100	1 ... 100	■	■
			40	25, 40, 50, 80, 100, 125, 160	1 ... 160		
	<b>with recirculating ball bearing guide</b>						
		DSL-KF	16, 20, 25, 32	25, 40, 50, 80, 100	1 ... 100	■	■
			40	25, 40, 50, 80, 100, 125, 160	1 ... 160		

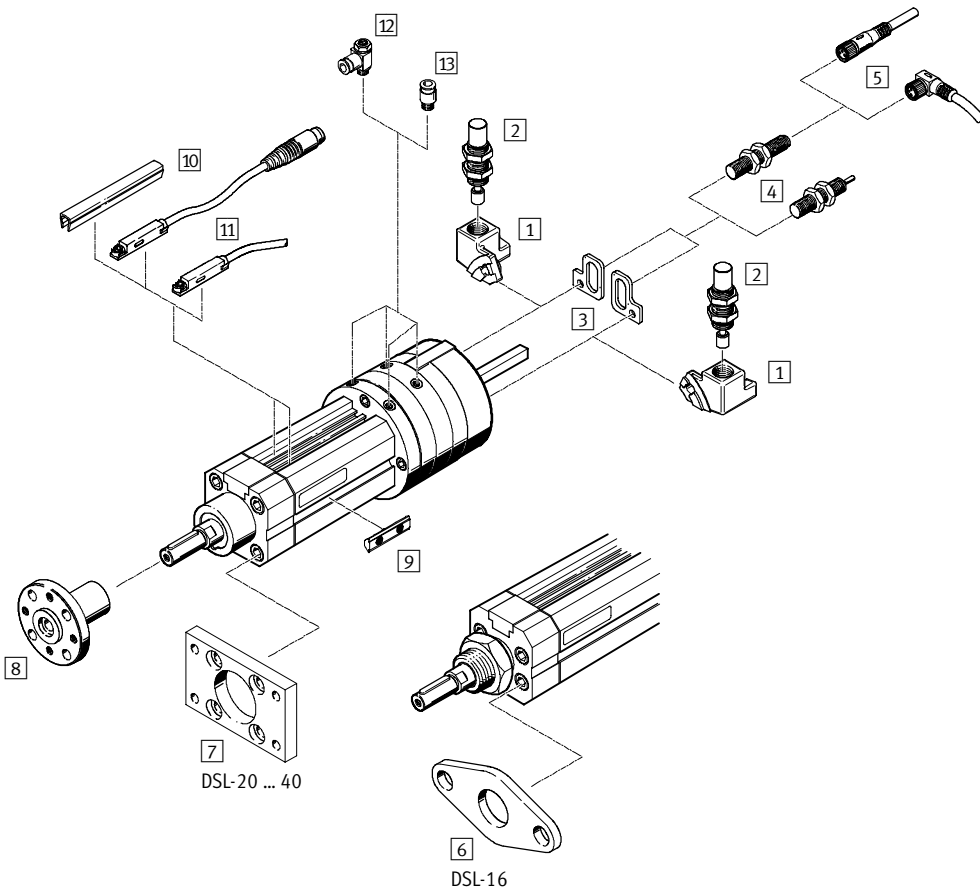
# Swivel/linear units DSL

Product range overview

Type	Fixed stop FF	Shock absorber			→ Page
		left CL	right CR	at both ends CC	
<b>with plain bearing guide</b>					
DSL	■	■	■	■	1 / 5.9-8
<b>with recirculating ball bearing guide</b>					
DSL-KF	■	-	-	■	1 / 5.9-8

# Swivel/linear units DSL

Peripherals overview



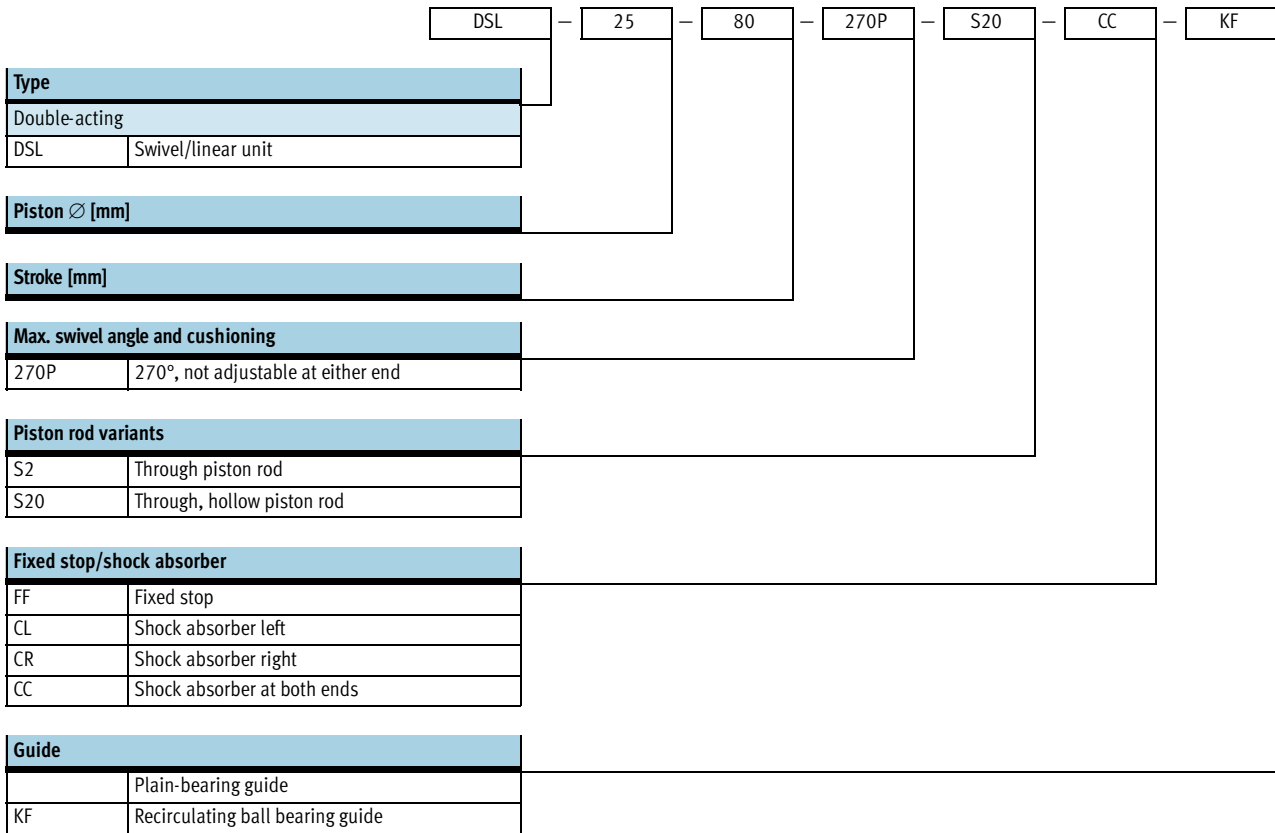
Accessories		
	Brief description	→ Page
1	Shock absorber retainer DSM-...-CL/CR	1 / 5.9-24
2	Shock absorber YSR-...-...-C	1 / 5.9-27
3	Sensor mounting kit WSM-...	1 / 5.9-27
4	Proximity sensor, inductive SIEN	1 / 5.9-27
5	Plug socket with cable SIM	1 / 5.9-28
6	Flange mounting FBN	1 / 5.9-25
7	Flange mounting FNG	1 / 5.9-25
8	Push-on flange FWSR	1 / 5.9-26
9	Slot nut NST	1 / 5.9-26
10	Slot cover ABP	1 / 5.9-27
11	Proximity sensors SME/SMT-8	1 / 5.9-28
12	One-way flow control valve GRLA	1 / 5.9-27
13	Push-in fitting QS	Volume 3

Special-function drives  
Swivel/linear drives

5.9

# Swivel/linear units DSL

Type codes



# Swivel/linear units DSL

Technical data

FESTO

Function



Variant



S2

S20

⊘ - Diameter  
16 ... 40 mm

┆ - Stroke length  
25 ... 160 mm

≡ - Force  
1.25 ... 20 Nm

 [www.festo.com/en/Spare\\_parts\\_service](http://www.festo.com/en/Spare_parts_service)



DSL-20 ... 40

General technical data							
Piston ∅			16	20	25	32	40
Piston rod dimensions	round, front	[mm]	∅ 10	∅ 12	∅ 16	∅ 20	∅ 25
	square, rear (GF)	[mm]	5.5	7	9	10	12
	profile, rear (KF)	[mm]	6	8	10	13	16
Pneumatic connection			M5			G <sup>1</sup> / <sub>8</sub>	
Design			Vane-driven semi-rotary cylinder in combination with a double-acting linear cylinder				
Cushioning	Swivel motion		FF – not adjustable at either end; CL/CR – self-adjusting at one end; CC – self-adjusting at both ends				
	Linear motion		P – not adjustable at either end				
Cushioning angle	Basic variant FF	[°]	1.8 ... 2.6	1.3 ... 2.1	1.1 ... 1.9	0.9 ... 1.7	1.4 ... 2.1
	Shock absorbers CL/CR/CC	[°]	13	12	10	12.5	15
Max. swivel angle <sup>1)</sup>	Basic variant FF	[°]	270	270	270	270	270
	with shock absorber CR/CL	[°]	254	254	258	258	255
	with shock absorber CC	[°]	238	238	246	246	246
Swivel angle adjustment (per side)			Basic variant FF: +1 ... -5°; variants CL/CR/CC: 1.5°				
Max. permissible frequency (at max. swivel angle)	Basic variant FF	[Hz]	2	2	2	2	2
	Shock absorbers CL/CR/CC	[Hz]	1.5	1	1	0.7	0.7
Position sensing			With inductive sensors on the semi-rotary drive				
			With proximity sensors on the linear drive				
Type of mounting			With slot nuts				
			With male thread				
Mounting position			Any				

1) Rotary angle backlash at the piston rod: max. 2°

Operating and environmental conditions							
Piston ∅ (linear part)			16	20	25	32	40
Operating medium			Filtered compressed air, lubricated or unlubricated				
Operating pressure		[bar]	2.5 ... 8				
Ambient temperature <sup>1)</sup>		[°C]	-10 ... +60				

1) Note operating range of proximity sensors



# Swivel/linear units DSL

Technical data

FESTO

Forces and torques						
Piston Ø		16	20	25	32	40
Torque at 6 bar <sup>1)</sup>	[Nm]	1.25	2.5	5	10	20
Theoretical force at 6 bar, advancing with plain bearing	[N]	102.5	159	246	422.5	660
Theoretical force at 6 bar, advancing with recirculating ball bearing guide	[N]	103.5	158	248	403.5	603
Theoretical force at 6 bar, retracting	[N]	73.5	120.5	173.5	294	495
Max. permissible applied load → 1 / 5.9-11	[g]	300	500	1,300	2,000	4,000
Max. permissible radial force on piston rod at max. stroke → 1 / 5.9-11	[N]	3.3	5.5	12	35	70

1) Theoretical values

Changes in load capacity <sup>1)</sup>						
Piston Ø (linear part)		16	20	25	32	40
Permissible mass moment of inertia without shock absorber	[kgm <sup>2</sup> ]	0.35 x 10 <sup>-4</sup>	0.7 x 10 <sup>-4</sup>	1.1 x 10 <sup>-4</sup>	1.7 x 10 <sup>-4</sup>	2.4 x 10 <sup>-4</sup>
Permissible mass moment of inertia with shock absorber	[kgm <sup>2</sup> ]	7 x 10 <sup>-4</sup>	12 x 10 <sup>-4</sup>	16 x 10 <sup>-4</sup>	21 x 10 <sup>-4</sup>	40 x 10 <sup>-4</sup>
Increase factor compared to no shock absorber		20	17	15	12	16

1) Unthrottled, please see diagrams → 1 / 5.9-12

Weights [g]						
Piston Ø (linear part)		16	20	25	32	40
Plain-bearing guide						
Basic variant FF		650	1,050	1,500	2,840	5,000
Shock absorber CC		700	1,130	1,610	3,000	5,200
Additional weight per 10 mm stroke		33	52	67	109	170
Recirculating ball bearing guide						
Basic variant FF		700	1,140	1,650	3,120	5,200
Shock absorber CC		750	1,220	1,750	3,280	5,350
Additional weight per 10 mm stroke		33	52	67	109	170

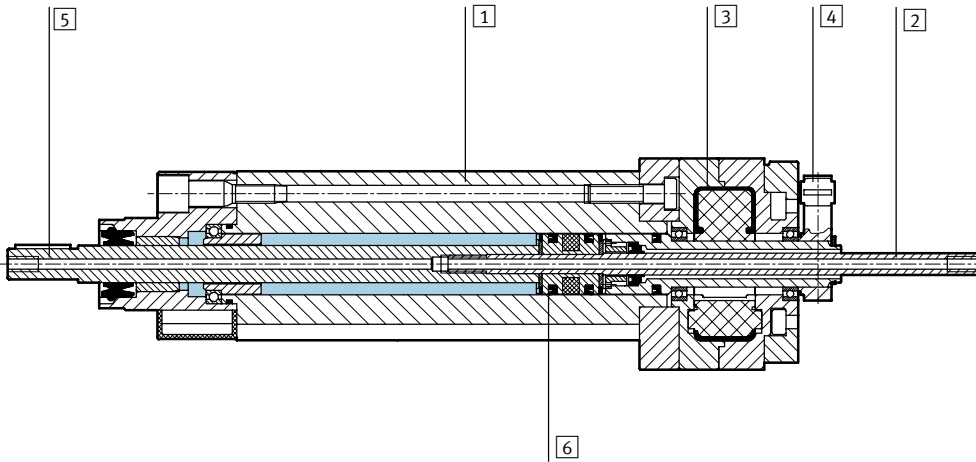
# Swivel/linear units DSL

Technical data



## Materials

Sectional view



### Swivel/linear unit

1	Cylinder barrel, housing	Anodised aluminium
2	Shaft	Nickel plated steel
3	Rotary vane	Fibreglass reinforced plastic
4	Stop lever	Anodised aluminium
5	Piston rod	Stainless steel
6	Piston	Brass
-	Fixed stops, shock absorber retainer	Stainless steel
-	Cap	Fibreglass reinforced plastic
-	Seals	Polyurethane

- - Note

The swivel angle is infinitely adjustable over the entire swivel range. End positions can be adjusted by means of stop screws and lock nuts. The impact of the stop lever is cushioned with flexible plastic pads with fixed stop FF.

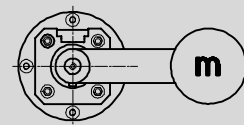
End-position cushioning is accomplished by means of YSR-...-C shock absorbers with CL/CR/CC variants. The rotary vane itself is not suitable for use in defining end positions, i.e. the stop lever and the stops may not be removed.

#### With plain-bearing guide:

If the applied load is attached eccentrically, increased internal friction forces occur when installed horizontally, thereby causing a reduction of the effective force of the linear movement.

#### With recirculating ball bearing guide:

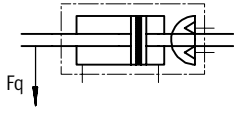
Observe max. dynamic torque load (linear motion).



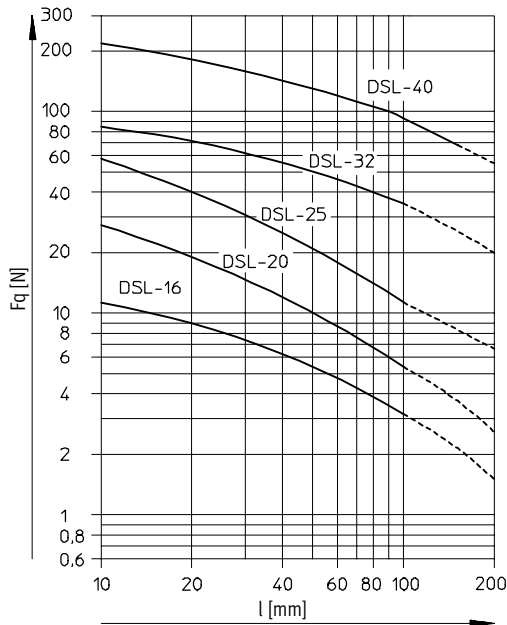
# Swivel/linear units DSL

Technical data

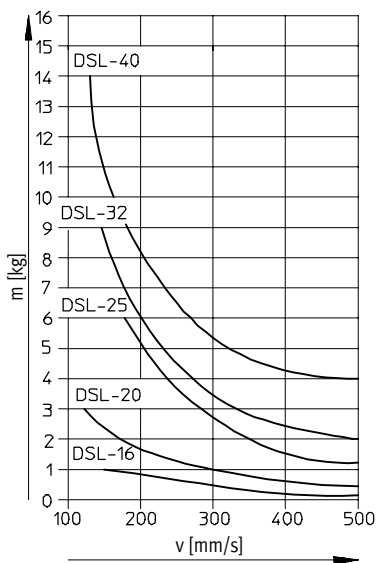
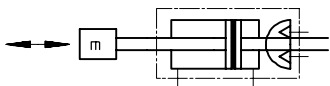
## Lateral force $F_q$ as a function of stroke length $l$



- Piston rod with bearings at both ends
- Resists high torques and lateral forces



## Max. permissible applied load $m$ as a function of piston speed $v$



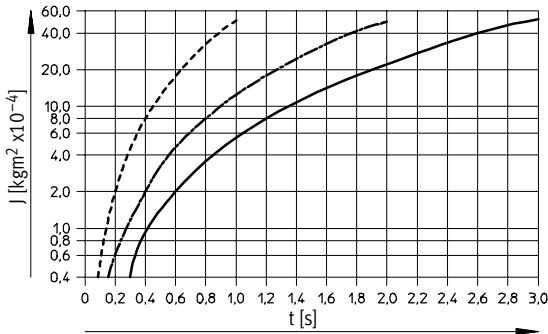
# Swivel/linear units DSL

Technical data



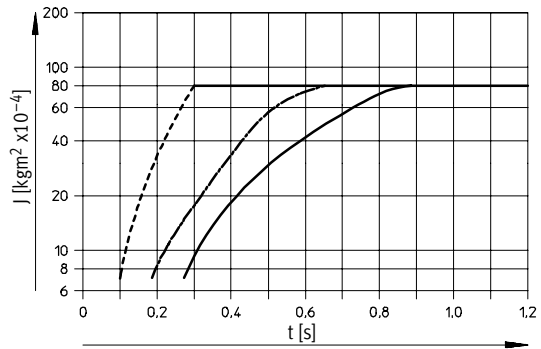
## Max. permissible mass moment of inertia J as a function of swivel time t

DSL-16-...-FF

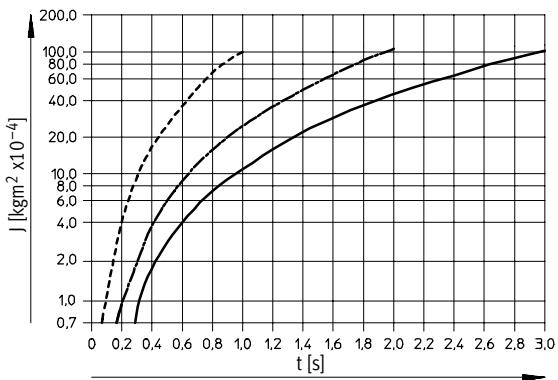


DSL-16-...-CL/CR/CC

Max. permissible mass moment of inertia:  $80 \times 10^{-4} \text{ kgm}^2$ ,  
Cushioning time, shock absorber YSR-5-5-C: approx. 0.1 s

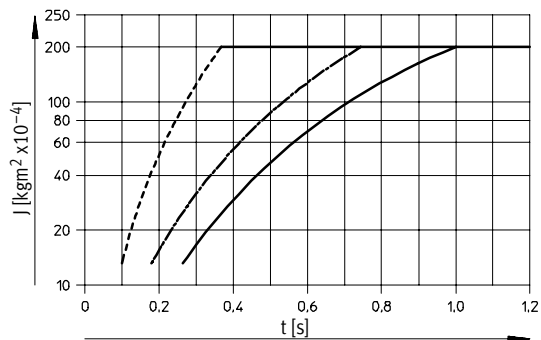


DSL-20-...-FF

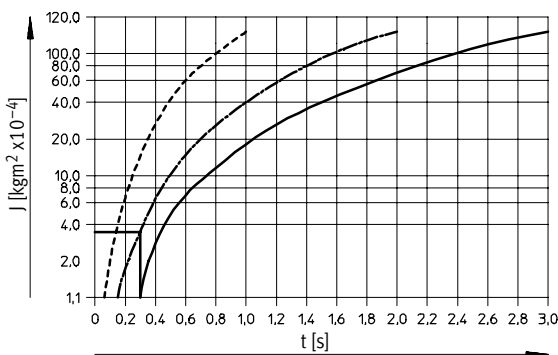


DSL-20-...-CL/CR/CC

Max. permissible mass moment of inertia:  $200 \times 10^{-4} \text{ kgm}^2$ ,  
Cushioning time, shock absorber YSR-7-5-C: approx. 0.1 s

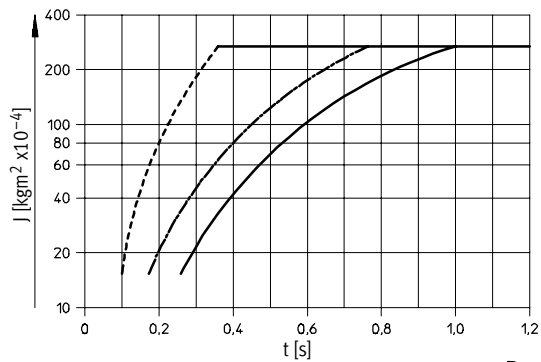


DSL-25-...-FF



DSL-25-...-CL/CR/CC

Max. permissible mass moment of inertia:  $280 \times 10^{-4} \text{ kgm}^2$ ,  
Cushioning time, shock absorber YSR-7-5-C: approx. 0.1 s



- 90°     - - - - -
- 180°   - · - · -
- 270°   - - - - -

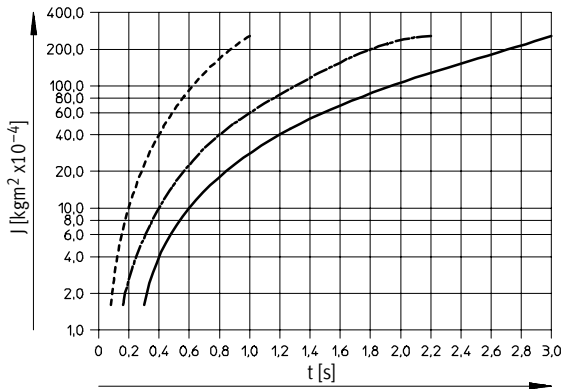
# Swivel/linear units DSL

Technical data



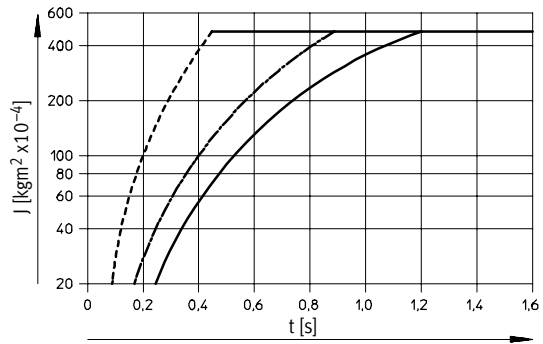
## Max. permissible mass moment of inertia J as a function of swivel time t

DSL-32-...-FF

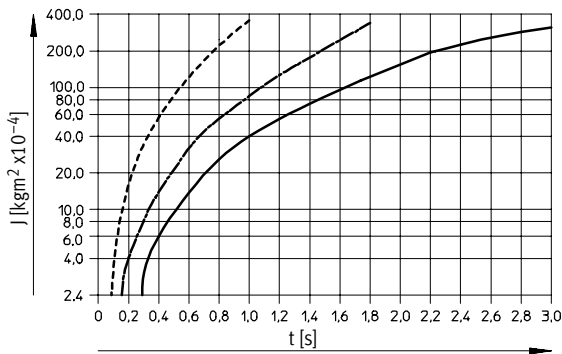


DSL-32-...-CL/CR/CC

Max. permissible mass moment of inertia:  $500 \times 10^{-4} \text{ kgm}^2$ ,  
Cushioning time, shock absorber YSR-8-8-C: approx. 0.25 s

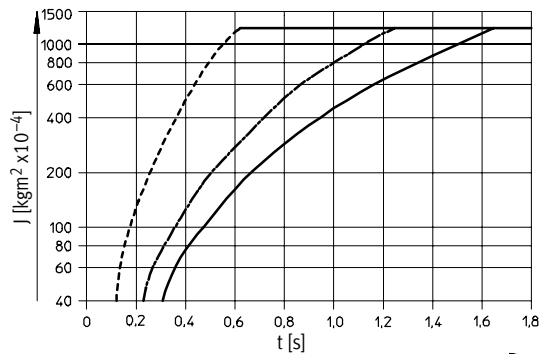


DSL-40-...-FF



DSL-40-...-CL/CR/CC

Max. permissible mass moment of inertia:  $1200 \times 10^{-4} \text{ kgm}^2$ ,  
Cushioning time, shock absorber YSR-8-8-C: approx. 0.3 s



- 90°     - - - - -
- 180°   - - - - -
- 270°   - - - - -

# Swivel/linear units DSL

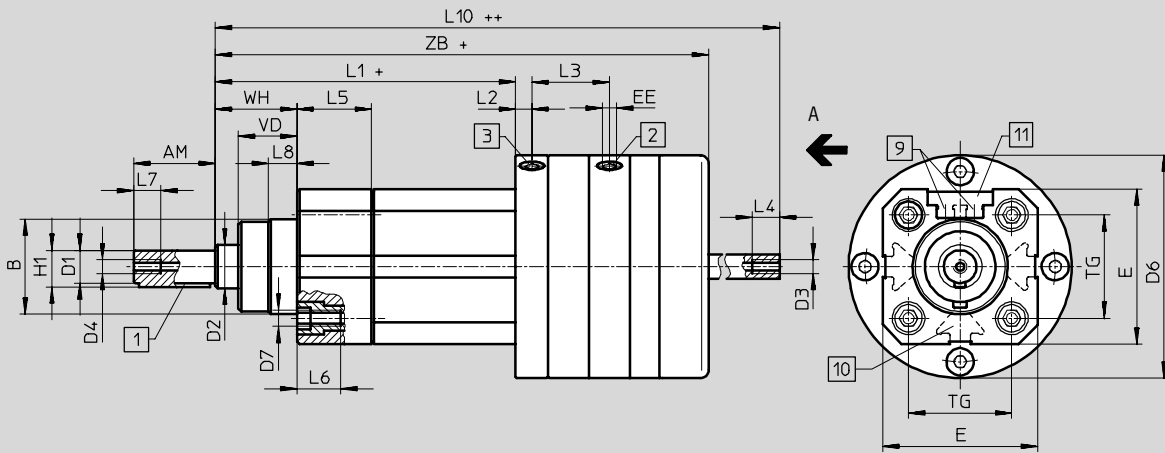
Technical data



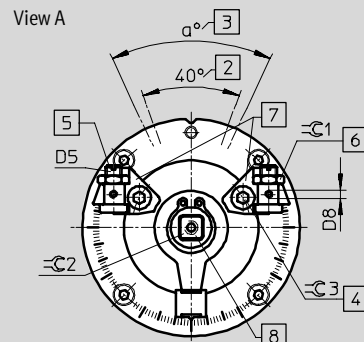
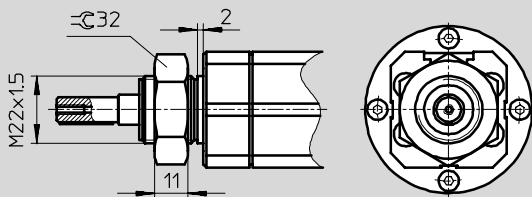
## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Variant with plain bearing



Piston Ø 16 mm



- |  |  |  |                          |
|--|--|--|--------------------------|
| 1 Woodruff key position at 0°            | 4 Locking screw for clamping the stop  | 7 Infinitely adjustable fixed stops            | 10 Mounting slots        |
| 2 Compressed air connection, rotary part | 5 End-position adjustment              | 8 Manual override (square)                     | 11 Removable cover plate |
| 3 Compressed air connection, linear part | 6 Lock nut for end-position adjustment | 9 Sensor slot for SME-/SMT-8 proximity sensors |                          |

+ = plus stroke length  
++ = plus 2 stroke lengths

# Swivel/linear units DSL

Technical data

FESTO

∅ [mm]	AM	B ∅ d11	D1 ∅ g7	D2 ∅ f8	D3		D4		D5	D6 ∅ ±0.2	D7
					S2	S20	S2	S20			
16	20 ±0.2	–	8	10	M3	M3	M3	M3	M4x0.5	58	–
20	23 ±0.2	30	10	12	M5	M5	M5	M5	M5x0.5	69	M6
25	30 ±0.2	35	12	16					M6x0.5	82	
32	40 ±0.3	40	16	20					M8x1	104	M8
40	50 ±0.3	45	20	25	M6	G $\frac{1}{8}$	M6	M7	M10x1	128	

∅ [mm]	D8	E	EE	H1 max.	L1 <sup>1)</sup>	L2	L3	L4	L5	L6 +2	L7
20	50	11.2	95 +1.1/-1.3	26.2	10 +1	26 -2	17	10 +1			
25	57	13.5	100.5 +1.2/-1.3	29.5							
32	72	G $\frac{1}{8}$	18	111 +1.3/-1.4	9	39.5	12.5 +2	28.5 -2	21	12.5 +2	
40	83.5		22.5	132 +1.3/-1.4		44.7	6.5 +2	35 -2	18	14 +2	

∅ [mm]	L8 ±0.2	L10 <sup>1)</sup>	TG	VG ±0.2	WH	ZB <sup>1)</sup>
20	10.5	175 +0.8/-0.1	32.5	19	26 +1.3/-1.7	167 +1.3/-1.7
25		186.5 +0.8/-0.1	38	21.5	30 +1.4/-1.7	181.5 +1.4/-1.7
32		12	224 +0.6/-0.2	46.5	28.5	37 +1.4/-1.8
40	15	263 +0.6/-0.2	56.5	34.7	46 +1.4/-1.8	259.5 +1.4/-1.8

∅ [mm]	α	≈C1	≈C2 <sup>1)</sup>	≈C3	Woodruff key to DIN 6885	Min. cross section S20 <sup>2)</sup>
20	50°	8	7	3	A3x3x18	3.2
25		10	9	4	A4x4x25	4.2
32		13	10	5	A5x5x36	
40		17	12	6	A6x6x45	5.6

1) Values for variant with plain bearing, dimensions vary for variant with recirculating ball bearing guide → 1 / 5.9-16

2) Through, hollow piston rod

# Swivel/linear units DSL

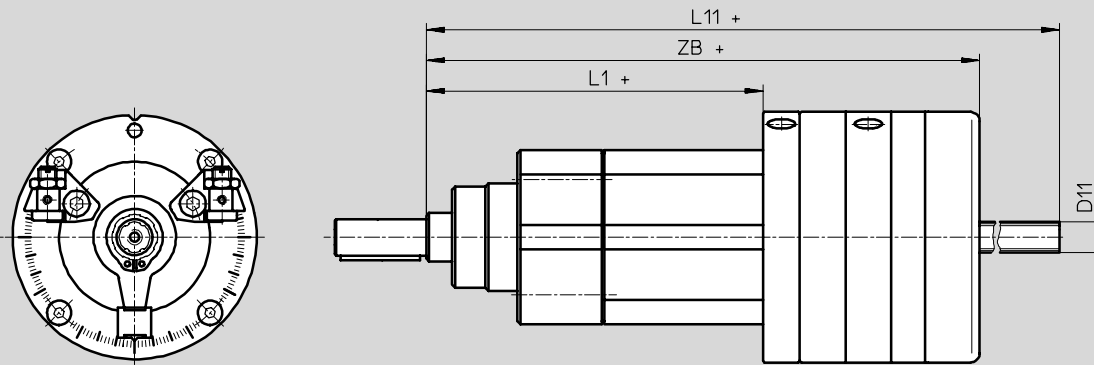
Technical data



## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Dimensions vary for variant with recirculating ball bearing guide KF



+ = plus stroke length

Ø [mm]	Stroke [mm]	D11 Ø h7	L1	L11		ZB
				S2	S20	
16	25	6	104 +1.1/-1.3	1) 213	198	169 +1.4/-1.1
	≤ 50				233	
	> 50				273	
20	≤ 50	8	111 +1.1/-1.3	1) 225	241	183 +1.4/-1.1
	> 50				291	
25	≤ 50	10	129.5 +1.1/-1.3	1) 238	266	210.5 +1.5/-1.2
	> 50				316	
32	≤ 50	13	143 +1.3/-1.4	1) 253	305	249.5 +1.6/-1.3
	> 50				355	
40	≤ 50	16	182 +1.3/-1.4	1) 352	364	309.5 +1.6/-1.3
	> 50				414	
	> 100				474	

1) Profile rod does not protrude beyond the drive unit.



# Swivel/linear units DSL

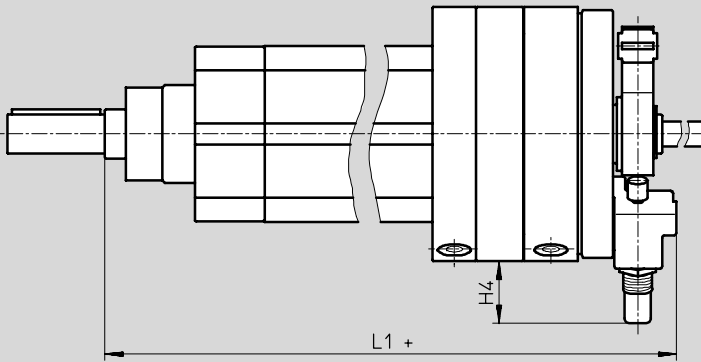
Technical data



## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Dimensions vary for variants with shock absorbers CL/CR/CC



+ = plus stroke length

Ø [mm]	H4 max.	L1	
			-KF
16	18	148.7 +1.4/-1.5	163.7 +1.4/-1.5
20	22.5	168.8 +1.4/-1.5	184.8 +1.4/-1.5
25	19.5	180.8 +1.4/-1.2	209.8 +1.4/-1.2
32	27.5	211 +1.5/-1.9	243 +1.5/-1.9
40	41	251.5 +1.8/-1.9	301.5 +1.8/-1.9

# Swivel/linear units DSL

Technical data




Ordering data – With plain bearing						
Design	∅ [mm]	Stroke [mm]	Basic variant FF fixed stop at both ends		Variant CL shock absorber left fixed stop right	
			Part No.	Type	Part No.	Type
<b>S2 – Through piston rod</b>						
	16	25	159 542	DSL-16-25-270P-S2-FF	164 815	DSL-16-25-270P-S2-CL
		40	163 008	DSL-16-40-270P-S2-FF	164 821	DSL-16-40-270P-S2-CL
		50	159 543	DSL-16-50-270P-S2-FF	164 827	DSL-16-50-270P-S2-CL
		80	163 010	DSL-16-80-270P-S2-FF	164 833	DSL-16-80-270P-S2-CL
		100	159 544	DSL-16-100-270P-S2-FF	164 839	DSL-16-100-270P-S2-CL
		1 ... 100	159 568	DSL-16-...-270P-S2-FF <sup>1)</sup>	164 809	DSL-16-...-270P-S2-CL <sup>1)</sup>
	20	25	161 035	DSL-20-25-270P-S2-FF	163 018	DSL-20-25-270P-S2-CL
		40	163 024	DSL-20-40-270P-S2-FF	163 025	DSL-20-40-270P-S2-CL
		50	161 037	DSL-20-50-270P-S2-FF	163 032	DSL-20-50-270P-S2-CL
		80	163 038	DSL-20-80-270P-S2-FF	163 039	DSL-20-80-270P-S2-CL
		100	161 039	DSL-20-100-270P-S2-FF	163 046	DSL-20-100-270P-S2-CL
		1 ... 100	161 033	DSL-20-...-270P-S2-FF <sup>1)</sup>	163 012	DSL-20-...-270P-S2-CL <sup>1)</sup>
	25	25	159 548	DSL-25-25-270P-S2-FF	163 058	DSL-25-25-270P-S2-CL
		40	163 064	DSL-25-40-270P-S2-FF	163 065	DSL-25-40-270P-S2-CL
		50	159 549	DSL-25-50-270P-S2-FF	163 072	DSL-25-50-270P-S2-CL
		80	163 078	DSL-25-80-270P-S2-FF	163 079	DSL-25-80-270P-S2-CL
		100	159 550	DSL-25-100-270P-S2-FF	163 086	DSL-25-100-270P-S2-CL
		1 ... 100	159 570	DSL-25-...-270P-S2-FF <sup>1)</sup>	163 052	DSL-25-...-270P-S2-CL <sup>1)</sup>
	32	25	159 554	DSL-32-25-270P-S2-FF	163 098	DSL-32-25-270P-S2-CL
		40	163 104	DSL-32-40-270P-S2-FF	163 105	DSL-32-40-270P-S2-CL
		50	159 555	DSL-32-50-270P-S2-FF	163 112	DSL-32-50-270P-S2-CL
80		163 118	DSL-32-80-270P-S2-FF	163 119	DSL-32-80-270P-S2-CL	
100		159 556	DSL-32-100-270P-S2-FF	163 126	DSL-32-100-270P-S2-CL	
1 ... 100		159 572	DSL-32-...-270P-S2-FF <sup>1)</sup>	163 092	DSL-32-...-270P-S2-CL <sup>1)</sup>	
40	25	175 863	DSL-40-25-270P-S2-FF	175 864	DSL-40-25-270P-S2-CL	
	40	175 871	DSL-40-40-270P-S2-FF	175 872	DSL-40-40-270P-S2-CL	
	50	175 879	DSL-40-50-270P-S2-FF	175 880	DSL-40-50-270P-S2-CL	
	80	175 887	DSL-40-80-270P-S2-FF	175 888	DSL-40-80-270P-S2-CL	
	100	175 895	DSL-40-100-270P-S2-FF	175 896	DSL-40-100-270P-S2-CL	
	125	175 903	DSL-40-125-270P-S2-FF	175 904	DSL-40-125-270P-S2-CL	
	160	175 911	DSL-40-160-270P-S2-FF	175 912	DSL-40-160-270P-S2-CL	
	1 ... 160	175 855	DSL-40-...-270P-S2-FF <sup>1)</sup>	175 856	DSL-40-...-270P-S2-CL <sup>1)</sup>	

1) Minimum order quantity 5

# Swivel/linear units DSL

Technical data

FESTO

Ordering data – With plain bearing						
Design	∅ [mm]	Stroke [mm]	Variant CR		Variant CC	
			Part No.	Type	Part No.	Type
S2 – Through piston rod						
	16	25	164 816	DSL-16-25-270P-S2-CR	164 817	DSL-16-25-270P-S2-CC
		40	164 822	DSL-16-40-270P-S2-CR	164 823	DSL-16-40-270P-S2-CC
		50	164 828	DSL-16-50-270P-S2-CR	164 829	DSL-16-50-270P-S2-CC
		80	164 834	DSL-16-80-270P-S2-CR	164 835	DSL-16-80-270P-S2-CC
		100	164 840	DSL-16-100-270P-S2-CR	164 841	DSL-16-100-270P-S2-CC
		1 ... 100	164 810	DSL-16-...-270P-S2-CR <sup>1)</sup>	164 811	DSL-16-...-270P-S2-CC <sup>1)</sup>
	20	25	163 019	DSL-20-25-270P-S2-CR	163 020	DSL-20-25-270P-S2-CC
		40	163 026	DSL-20-40-270P-S2-CR	163 027	DSL-20-40-270P-S2-CC
		50	163 033	DSL-20-50-270P-S2-CR	163 034	DSL-20-50-270P-S2-CC
		80	163 040	DSL-20-80-270P-S2-CR	163 041	DSL-20-80-270P-S2-CC
		100	163 047	DSL-20-100-270P-S2-CR	163 048	DSL-20-100-270P-S2-CC
		1 ... 100	163 013	DSL-20-...-270P-S2-CR <sup>1)</sup>	163 014	DSL-20-...-270P-S2-CC <sup>1)</sup>
	25	25	163 059	DSL-25-25-270P-S2-CR	163 060	DSL-25-25-270P-S2-CC
		40	163 066	DSL-25-40-270P-S2-CR	163 067	DSL-25-40-270P-S2-CC
		50	163 073	DSL-25-50-270P-S2-CR	163 074	DSL-25-50-270P-S2-CC
		80	163 080	DSL-25-80-270P-S2-CR	163 081	DSL-25-80-270P-S2-CC
		100	163 087	DSL-25-100-270P-S2-CR	163 088	DSL-25-100-270P-S2-CC
		1 ... 100	163 053	DSL-25-...-270P-S2-CR <sup>1)</sup>	163 054	DSL-25-...-270P-S2-CC <sup>1)</sup>
	32	25	163 099	DSL-32-25-270P-S2-CR	163 100	DSL-32-25-270P-S2-CC
		40	163 106	DSL-32-40-270P-S2-CR	163 107	DSL-32-40-270P-S2-CC
		50	163 113	DSL-32-50-270P-S2-CR	163 114	DSL-32-50-270P-S2-CC
80		163 120	DSL-32-80-270P-S2-CR	163 121	DSL-32-80-270P-S2-CC	
100		163 127	DSL-32-100-270P-S2-CR	163 128	DSL-32-100-270P-S2-CC	
1 ... 100		163 093	DSL-32-...-270P-S2-CR <sup>1)</sup>	163 094	DSL-32-...-270P-S2-CC <sup>1)</sup>	
40	25	175 865	DSL-40-25-270P-S2-CR	175 866	DSL-40-25-270P-S2-CC	
	40	175 873	DSL-40-40-270P-S2-CR	175 874	DSL-40-40-270P-S2-CC	
	50	175 881	DSL-40-50-270P-S2-CR	175 882	DSL-40-50-270P-S2-CC	
	80	175 889	DSL-40-80-270P-S2-CR	175 890	DSL-40-80-270P-S2-CC	
	100	175 897	DSL-40-100-270P-S2-CR	175 898	DSL-40-100-270P-S2-CC	
	125	175 905	DSL-40-125-270P-S2-CR	175 906	DSL-40-125-270P-S2-CC	
	160	175 913	DSL-40-160-270P-S2-CR	175 914	DSL-40-160-270P-S2-CC	
	1 ... 160	175 857	DSL-40-...-270P-S2-CR <sup>1)</sup>	175 858	DSL-40-...-270P-S2-CC <sup>1)</sup>	

1) Minimum order quantity 5


Special-function drives  
Swivel/linear drives

5.9

# Swivel/linear units DSL

Technical data

FESTO


Ordering data – With plain bearing						
Design	∅ [mm]	Stroke [mm]	Basic variant FF fixed stop at both ends		Variant CL shock absorber left fixed stop right	
			Part No.	Type	Part No.	Type
S20 – Through, hollow piston rod						
	16	25	159 545	DSL-16-25-270P-S20-FF	164 818	DSL-16-25-270P-S20-CL
		40	163 009	DSL-16-40-270P-S20-FF	164 824	DSL-16-40-270P-S20-CL
		50	159 546	DSL-16-50-270P-S20-FF	164 830	DSL-16-50-270P-S20-CL
		80	163 011	DSL-16-80-270P-S20-FF	164 836	DSL-16-80-270P-S20-CL
		100	159 547	DSL-16-100-270P-S20-FF	164 842	DSL-16-100-270P-S20-CL
		1 ... 100	159 569	DSL-16-...-270P-S20-FF <sup>1)</sup>	164 812	DSL-16-...-270P-S20-CL <sup>1)</sup>
	20	25	161 036	DSL-20-25-270P-S20-FF	163 021	DSL-20-25-270P-S20-CL
		40	163 028	DSL-20-40-270P-S20-FF	163 029	DSL-20-40-270P-S20-CL
		50	161 038	DSL-20-50-270P-S20-FF	163 035	DSL-20-50-270P-S20-CL
		80	163 042	DSL-20-80-270P-S20-FF	163 043	DSL-20-80-270P-S20-CL
		100	161 040	DSL-20-100-270P-S20-FF	163 049	DSL-20-100-270P-S20-CL
		1 ... 100	161 034	DSL-20-...-270P-S20-FF <sup>1)</sup>	163 015	DSL-20-...-270P-S20-CL <sup>1)</sup>
	25	25	159 551	DSL-25-25-270P-S20-FF	163 061	DSL-25-25-270P-S20-CL
		40	163 068	DSL-25-40-270P-S20-FF	163 069	DSL-25-40-270P-S20-CL
		50	159 552	DSL-25-50-270P-S20-FF	163 075	DSL-25-50-270P-S20-CL
		80	163 082	DSL-25-80-270P-S20-FF	163 083	DSL-25-80-270P-S20-CL
		100	159 553	DSL-25-100-270P-S20-FF	163 089	DSL-25-100-270P-S20-CL
		1 ... 100	159 571	DSL-25-...-270P-S20-FF <sup>1)</sup>	163 055	DSL-25-...-270P-S20-CL <sup>1)</sup>
	32	25	159 557	DSL-32-25-270P-S20-FF	163 101	DSL-32-25-270P-S20-CL
		40	163 108	DSL-32-40-270P-S20-FF	163 109	DSL-32-40-270P-S20-CL
		50	159 558	DSL-32-50-270P-S20-FF	163 115	DSL-32-50-270P-S20-CL
		80	163 122	DSL-32-80-270P-S20-FF	163 123	DSL-32-80-270P-S20-CL
		100	159 559	DSL-32-100-270P-S20-FF	163 129	DSL-32-100-270P-S20-CL
		1 ... 100	159 573	DSL-32-...-270P-S20-FF <sup>1)</sup>	163 095	DSL-32-...-270P-S20-CL <sup>1)</sup>
	40	25	175 867	DSL-40-25-270P-S20-FF	175 868	DSL-40-25-270P-S20-CL
		40	175 875	DSL-40-40-270P-S20-FF	175 876	DSL-40-40-270P-S20-CL
		50	175 883	DSL-40-50-270P-S20-FF	175 884	DSL-40-50-270P-S20-CL
		80	175 891	DSL-40-80-270P-S20-FF	175 892	DSL-40-80-270P-S20-CL
		100	175 899	DSL-40-100-270P-S20-FF	175 900	DSL-40-100-270P-S20-CL
		125	175 907	DSL-40-125-270P-S20-FF	175 908	DSL-40-125-270P-S20-CL
		160	175 915	DSL-40-160-270P-S20-FF	175 916	DSL-40-160-270P-S20-CL
		1 ... 160	175 859	DSL-40-...-270P-S20-FF <sup>1)</sup>	175 860	DSL-40-...-270P-S20-CL <sup>1)</sup>

1) Minimum order quantity 5

# Swivel/linear units DSL

Technical data

FESTO

Ordering data – With plain bearing						
Design	∅ [mm]	Stroke [mm]	Variant CR		Variant CC	
			Part No.	Type	Part No.	Type
S20 – Through, hollow piston rod						
	16	25	164 819	DSL-16-25-270P-S20-CR	164 820	DSL-16-25-270P-S20-CC
		40	164 825	DSL-16-40-270P-S20-CR	164 826	DSL-16-40-270P-S20-CC
		50	164 831	DSL-16-50-270P-S20-CR	164 832	DSL-16-50-270P-S20-CC
		80	164 837	DSL-16-80-270P-S20-CR	164 838	DSL-16-80-270P-S20-CC
		100	164 843	DSL-16-100-270P-S20-CR	164 844	DSL-16-100-270P-S20-CC
		1 ... 100	164 813	DSL-16-...-270P-S20-CR <sup>1)</sup>	164 814	DSL-16-...-270P-S20-CC <sup>1)</sup>
	20	25	163 022	DSL-20-25-270P-S20-CR	163 023	DSL-20-25-270P-S20-CC
		40	163 030	DSL-20-40-270P-S20-CR	163 031	DSL-20-40-270P-S20-CC
		50	163 036	DSL-20-50-270P-S20-CR	163 037	DSL-20-50-270P-S20-CC
		80	163 044	DSL-20-80-270P-S20-CR	163 045	DSL-20-80-270P-S20-CC
		100	163 050	DSL-20-100-270P-S20-CR	163 051	DSL-20-100-270P-S20-CC
		1 ... 100	163 016	DSL-20-...-270P-S20-CR <sup>1)</sup>	163 017	DSL-20-...-270P-S20-CC <sup>1)</sup>
	25	25	163 062	DSL-25-25-270P-S20-CR	163 063	DSL-25-25-270P-S20-CC
		40	163 070	DSL-25-40-270P-S20-CR	163 071	DSL-25-40-270P-S20-CC
		50	163 076	DSL-25-50-270P-S20-CR	163 077	DSL-25-50-270P-S20-CC
		80	163 084	DSL-25-80-270P-S20-CR	163 085	DSL-25-80-270P-S20-CC
		100	163 090	DSL-25-100-270P-S20-CR	163 091	DSL-25-100-270P-S20-CC
		1 ... 100	163 056	DSL-25-...-270P-S20-CR <sup>1)</sup>	163 057	DSL-25-...-270P-S20-CC <sup>1)</sup>
	32	25	163 102	DSL-32-25-270P-S20-CR	163 103	DSL-32-25-270P-S20-CC
		40	163 110	DSL-32-40-270P-S20-CR	163 111	DSL-32-40-270P-S20-CC
		50	163 116	DSL-32-50-270P-S20-CR	163 117	DSL-32-50-270P-S20-CC
		80	163 124	DSL-32-80-270P-S20-CR	163 125	DSL-32-80-270P-S20-CC
		100	163 130	DSL-32-100-270P-S20-CR	163 131	DSL-32-100-270P-S20-CC
		1 ... 100	163 096	DSL-32-...-270P-S20-CR <sup>1)</sup>	163 097	DSL-32-...-270P-S20-CC <sup>1)</sup>
	40	25	175 869	DSL-40-25-270P-S20-CR	175 870	DSL-40-25-270P-S20-CC
		40	175 877	DSL-40-40-270P-S20-CR	175 878	DSL-40-40-270P-S20-CC
		50	175 885	DSL-40-50-270P-S20-CR	175 886	DSL-40-50-270P-S20-CC
		80	175 893	DSL-40-80-270P-S20-CR	175 894	DSL-40-80-270P-S20-CC
		100	175 901	DSL-40-100-270P-S20-CR	175 902	DSL-40-100-270P-S20-CC
		125	175 909	DSL-40-125-270P-S20-CR	175 910	DSL-40-125-270P-S20-CC
		160	175 917	DSL-40-160-270P-S20-CR	175 918	DSL-40-160-270P-S20-CC
		1 ... 160	175 861	DSL-40-...-270P-S20-CR <sup>1)</sup>	175 862	DSL-40-...-270P-S20-CC <sup>1)</sup>

1) Minimum order quantity 5


Special-function drives  
Swivel/linear drives

5.9

# Swivel/linear units DSL

FESTO

Technical data


Ordering data – With recirculating ball bearing guide						
Design	∅ [mm]	Stroke [mm]	Basic variant FF fixed stop at both ends		Variant CC shock absorber at both ends	
			Part No.	Type	Part No.	Type
S2 – Through piston rod						
	16	25	177 159	DSL-16-25-270P-S2-FF-KF	177 160	DSL-16-25-270P-S2-CC-KF
		40	177 163	DSL-16-40-270P-S2-FF-KF	177 164	DSL-16-40-270P-S2-CC-KF
		50	177 167	DSL-16-50-270P-S2-FF-KF	177 168	DSL-16-50-270P-S2-CC-KF
		80	177 171	DSL-16-80-270P-S2-FF-KF	177 172	DSL-16-80-270P-S2-CC-KF
		100	177 175	DSL-16-100-270P-S2-FF-KF	177 176	DSL-16-100-270P-S2-CC-KF
		1 ... 100	177 179	DSL-16-...-270P-S2-FF-KF <sup>1)</sup>	177 180	DSL-16-...-270P-S2-CC-KF <sup>1)</sup>
	20	25	177 183	DSL-20-25-270P-S2-FF-KF	177 184	DSL-20-25-270P-S2-CC-KF
		40	177 187	DSL-20-40-270P-S2-FF-KF	177 188	DSL-20-40-270P-S2-CC-KF
		50	177 191	DSL-20-50-270P-S2-FF-KF	177 192	DSL-20-50-270P-S2-CC-KF
		80	177 195	DSL-20-80-270P-S2-FF-KF	177 196	DSL-20-80-270P-S2-CC-KF
		100	177 199	DSL-20-100-270P-S2-FF-KF	177 200	DSL-20-100-270P-S2-CC-KF
		1 ... 100	177 203	DSL-20-...-270P-S2-FF-KF <sup>1)</sup>	177 204	DSL-20-...-270P-S2-CC-KF <sup>1)</sup>
	25	25	177 207	DSL-25-25-270P-S2-FF-KF	177 208	DSL-25-25-270P-S2-CC-KF
		40	177 211	DSL-25-40-270P-S2-FF-KF	177 212	DSL-25-40-270P-S2-CC-KF
		50	177 215	DSL-25-50-270P-S2-FF-KF	177 216	DSL-25-50-270P-S2-CC-KF
		80	177 219	DSL-25-80-270P-S2-FF-KF	177 220	DSL-25-80-270P-S2-CC-KF
		100	177 223	DSL-25-100-270P-S2-FF-KF	177 224	DSL-25-100-270P-S2-CC-KF
		1 ... 100	177 227	DSL-25-...-270P-S2-FF-KF <sup>1)</sup>	177 228	DSL-25-...-270P-S2-CC-KF <sup>1)</sup>
	32	25	177 231	DSL-32-25-270P-S2-FF-KF	177 232	DSL-32-25-270P-S2-CC-KF
		40	177 235	DSL-32-40-270P-S2-FF-KF	177 236	DSL-32-40-270P-S2-CC-KF
		50	177 239	DSL-32-50-270P-S2-FF-KF	177 240	DSL-32-50-270P-S2-CC-KF
80		177 243	DSL-32-80-270P-S2-FF-KF	177 244	DSL-32-80-270P-S2-CC-KF	
100		177 247	DSL-32-100-270P-S2-FF-KF	177 248	DSL-32-100-270P-S2-CC-KF	
1 ... 100		177 251	DSL-32-...-270P-S2-FF-KF <sup>1)</sup>	177 252	DSL-32-...-270P-S2-CC-KF <sup>1)</sup>	
40	25	177 255	DSL-40-25-270P-S2-FF-KF	177 256	DSL-40-25-270P-S2-CC-KF	
	40	177 259	DSL-40-40-270P-S2-FF-KF	177 260	DSL-40-40-270P-S2-CC-KF	
	50	177 263	DSL-40-50-270P-S2-FF-KF	177 264	DSL-40-50-270P-S2-CC-KF	
	80	177 267	DSL-40-80-270P-S2-FF-KF	177 268	DSL-40-80-270P-S2-CC-KF	
	100	177 271	DSL-40-100-270P-S2-FF-KF	177 272	DSL-40-100-270P-S2-CC-KF	
	125	177 275	DSL-40-125-270P-S2-FF-KF	177 276	DSL-40-125-270P-S2-CC-KF	
	160	177 279	DSL-40-160-270P-S2-FF-KF	177 280	DSL-40-160-270P-S2-CC-KF	
	1 ... 160	177 283	DSL-40-...-270P-S2-FF-KF <sup>1)</sup>	177 284	DSL-40-...-270P-S2-CC-KF <sup>1)</sup>	

1) Minimum order quantity 5

# Swivel/linear units DSL

Technical data

FESTO

Ordering data – With recirculating ball bearing guide						
Design	∅ [mm]	Stroke [mm]	Basic variant FF fixed stop at both ends		Variant CC shock absorber at both ends	
			Part No.	Type	Part No.	Type
S20 – Through, hollow piston rod						
	16	25	177 161	DSL-16-25-270P-S20-FF-KF	177 162	DSL-16-25-270P-S20-CC-KF
		40	177 165	DSL-16-40-270P-S20-FF-KF	177 166	DSL-16-40-270P-S20-CC-KF
		50	177 169	DSL-16-50-270P-S20-FF-KF	177 170	DSL-16-50-270P-S20-CC-KF
		80	177 173	DSL-16-80-270P-S20-FF-KF	177 174	DSL-16-80-270P-S20-CC-KF
		100	177 177	DSL-16-100-270P-S20-FF-KF	177 178	DSL-16-100-270P-S20-CC-KF
		1 ... 100	177 181	DSL-16-...-270P-S20-FF-KF <sup>1)</sup>	177 182	DSL-16-...-270P-S20-CC-KF <sup>1)</sup>
	20	25	177 185	DSL-20-25-270P-S20-FF-KF	177 186	DSL-20-25-270P-S20-CC-KF
		40	177 189	DSL-20-40-270P-S20-FF-KF	177 190	DSL-20-40-270P-S20-CC-KF
		50	177 193	DSL-20-50-270P-S20-FF-KF	177 194	DSL-20-50-270P-S20-CC-KF
		80	177 197	DSL-20-80-270P-S20-FF-KF	177 198	DSL-20-80-270P-S20-CC-KF
		100	177 201	DSL-20-100-270P-S20-FF-KF	177 202	DSL-20-100-270P-S20-CC-KF
		1 ... 100	177 205	DSL-20-...-270P-S20-FF-KF <sup>1)</sup>	177 206	DSL-20-...-270P-S20-CC-KF <sup>1)</sup>
	25	25	177 209	DSL-25-25-270P-S20-FF-KF	177 210	DSL-25-25-270P-S20-CC-KF
		40	177 213	DSL-25-40-270P-S20-FF-KF	177 214	DSL-25-40-270P-S20-CC-KF
		50	177 217	DSL-25-50-270P-S20-FF-KF	177 218	DSL-25-50-270P-S20-CC-KF
		80	177 221	DSL-25-80-270P-S20-FF-KF	177 222	DSL-25-80-270P-S20-CC-KF
		100	177 225	DSL-25-100-270P-S20-FF-KF	177 226	DSL-25-100-270P-S20-CC-KF
		1 ... 100	177 229	DSL-25-...-270P-S20-FF-KF <sup>1)</sup>	177 230	DSL-25-...-270P-S20-CC-KF <sup>1)</sup>
	32	25	177 233	DSL-32-25-270P-S20-FF-KF	177 234	DSL-32-25-270P-S20-CC-KF
		40	177 237	DSL-32-40-270P-S20-FF-KF	177 238	DSL-32-40-270P-S20-CC-KF
		50	177 241	DSL-32-50-270P-S20-FF-KF	177 242	DSL-32-50-270P-S20-CC-KF
		80	177 245	DSL-32-80-270P-S20-FF-KF	177 246	DSL-32-80-270P-S20-CC-KF
		100	177 249	DSL-32-100-270P-S20-FF-KF	177 250	DSL-32-100-270P-S20-CC-KF
		1 ... 100	177 253	DSL-32-...-270P-S20-FF-KF <sup>1)</sup>	177 254	DSL-32-...-270P-S20-CC-KF <sup>1)</sup>
	40	25	177 257	DSL-40-25-270P-S20-FF-KF	177 258	DSL-40-25-270P-S20-CC-KF
		40	177 261	DSL-40-40-270P-S20-FF-KF	177 262	DSL-40-40-270P-S20-CC-KF
		50	177 265	DSL-40-50-270P-S20-FF-KF	177 266	DSL-40-50-270P-S20-CC-KF
		80	177 269	DSL-40-80-270P-S20-FF-KF	177 270	DSL-40-80-270P-S20-CC-KF
		100	177 273	DSL-40-100-270P-S20-FF-KF	177 274	DSL-40-100-270P-S20-CC-KF
		125	177 277	DSL-40-125-270P-S20-FF-KF	177 278	DSL-40-125-270P-S20-CC-KF
		160	177 281	DSL-40-160-270P-S20-FF-KF	177 282	DSL-40-160-270P-S20-CC-KF
		1 ... 160	177 285	DSL-40-...-270P-S20-FF-KF <sup>1)</sup>	177 286	DSL-40-...-270P-S20-CC-KF <sup>1)</sup>

1) Minimum order quantity 5

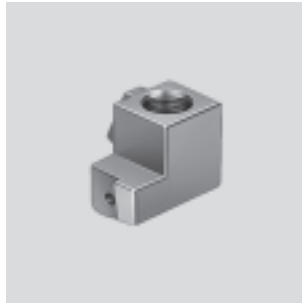
# Swivel/linear units DSL

Accessories



## Shock absorber retainer DSM-...-CL/CR

Material:  
Galvanised steel  
Free of copper, PTFE and silicone

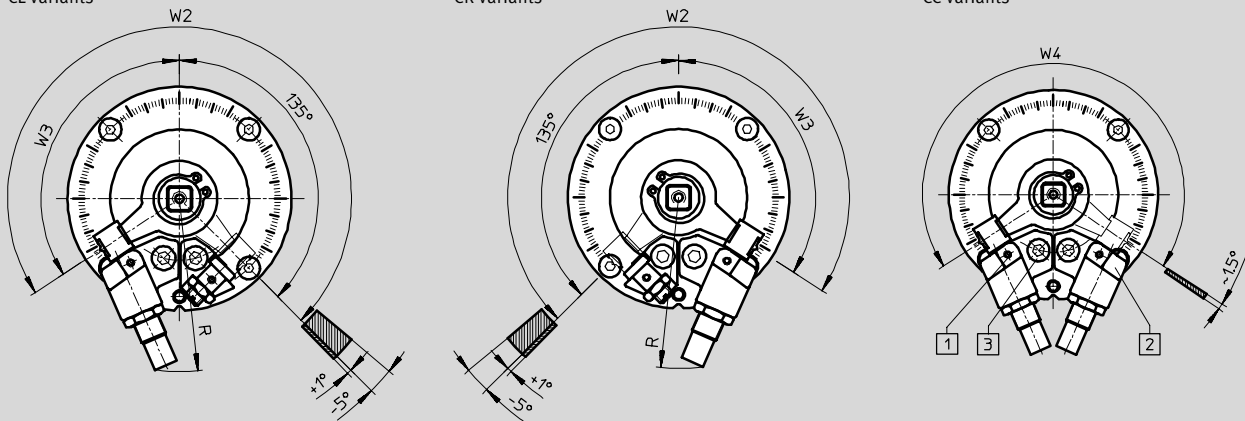


### Dimensions

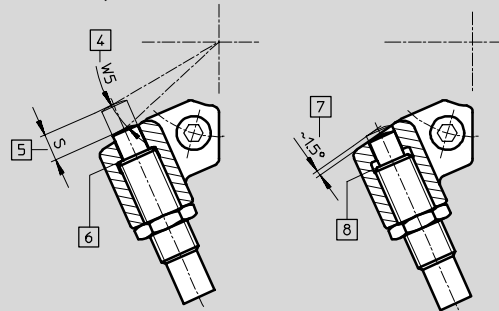
CL variants

CR variants

CC variants



### Precision adjustment



- 1 Mounting thread for WSM mounting kit
- 2 Infinitely adjustable shock absorber retainers for adjustment of swivel angle
- 3 Locking screw for tightening the shock absorber retainer
- 4 Cushioning angle
- 5 Cushioning length
- 6 Shock absorber at rear stop on retainer
- 7 Precision adjustment
- 8 Shock absorber unscrewed

### Dimensions and ordering data

For $\varnothing$ [mm]	R max.	S	W2	W3	W4	W5	For shock absorbers	CRC <sup>1)</sup>	Weight [g]	Mounting	Part No.	Type
16	48	4.5	254°	119°	238°	13°	YSR-5-5-C	2	30	left	164 324	DSM-12-CL
										right	164 325	DSM-12-CR
20	58	5	254°	119°	238°	12°	YSR-7-5-C	2	50	left	161 184	DSM-16-CL
										right	161 185	DSM-16-CR
25	61	5	258°	123°	246°	10°	YSR-7-5-C	2	51	left	161 186	DSM-25-CL
										right	161 187	DSM-25-CR
32	81	8	258°	123°	246°	12.5°	YSR-8-8-C	2	95	left	161 188	DSM-32-CL
										right	161 189	DSM-32-CR
40	108	12	255°	120°	240°	15°	YSR-12-12-C	2	175	left	161 190	DSM-40-CL
										right	161 191	DSM-40-CR

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

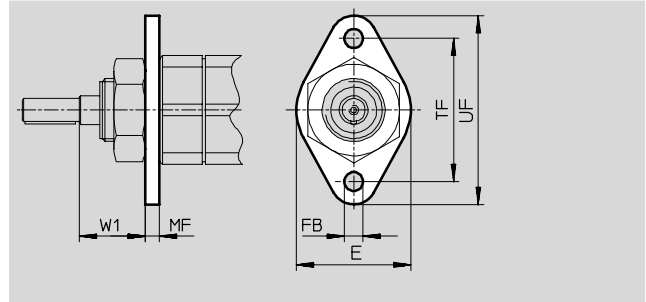


# Swivel/linear units DSL

Accessories

## Flange mounting FBN

Material:  
Galvanised steel  
Free of copper, PTFE and silicone

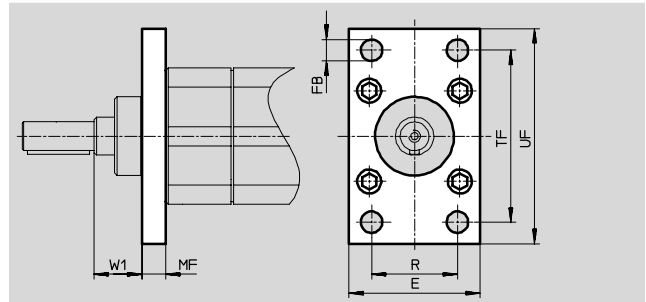
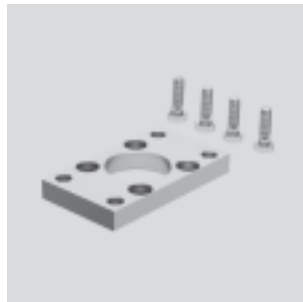


Dimensions and ordering data											
For $\varnothing$	E	FB	MF	TF	UF	W1	CRC <sup>1)</sup>	Weight	Part No.	Type	
[mm]		$\varnothing$ H13						[g]			
16	40	6.6	5	50	66	23	2	47	5 131	FBN-20/25	

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

## Flange mounting FNG

Material:  
Galvanised steel  
Free of copper, PTFE and silicone



Dimensions and ordering data											
For $\varnothing$	E	FB	MF	R	TF	UF	W1	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]		$\varnothing$ H13							[g]		
20	45	7	10	32	64	80	16	2	245	32 940	FNG-32
25	54	9	10	36	72	90	20	2	290	32 941	FNG-40
32	65	9	12	45	90	110	25	2	520	32 942	FNG-50
40	75	9	12	50	100	120	34	2	690	32 943	FNG-63

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

 Core Range

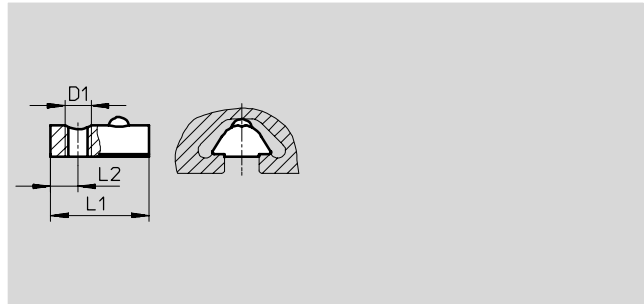
# Swivel/linear units DSL

Accessories



## Slot nut NST

Material:  
Non-alloyed tempered steel  
Free of copper, PTFE and silicone



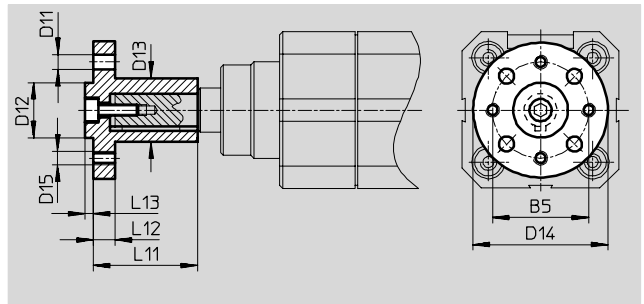
Dimensions and ordering data							
For Ø	D1	L1	L2	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]		±0.5			[g]		
16	M5	12	4	2	3	150 914	NST-5-M5
20							
25	M6	22.5	6.25	2	11	150 915	NST-8-M6
32							
40							

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

## Push-on flange FWSR

Permissible tightening torque may not be exceeded when attaching additional components to the spigot shaft.

Material:  
Wrought aluminium alloy, anodised  
Free of copper, PTFE and silicone



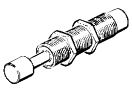
Dimensions and ordering data														
For Ø	B5	D11	D12	D13	D14	D15	L11	L12	L13	Tightening torque	CRC <sup>1)</sup>	Weight	Part No.	Type
[mm]		H13	f8	Ø	Ø					[Nm]		[g]		
16	25	3.4	14	15	35	M3	25	3	3	1.2	2	21	14 659	FWSR-12
20	28	4.5	16	17	40	M4	28	5	6	5.5	2	32	170 153	FWSR-16-M5
25	35	5.5	20	23	50	M5	38	8	3	5.5	2	70	170 154	FWSR-25-M5
32	45	6.6	28	28	60	M6	48	10	4	5.5	2	127	13 241	FWSR-32
40	54	9	36	38	70	M8	60	11	5	10	2	240	14 656	FWSR-40


1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.


# Swivel/linear units DSL


Accessories



FESTO

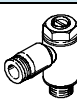
Ordering data – Shock absorber				Technical data → 1 / 9.0-2	
	For Ø	Remarks	Part No.	Type	
	16	For shock absorber retainer type DSM-...-CL/CR	<b>158 981</b>	YSR-5-5-C	
	20/25		<b>160 272</b>	YSR-7-5-C	
	32		<b>34 571</b>	YSR-8-8-C	
	40		<b>34 572</b>	YSR-12-12-C	


Ordering data – Mounting kit					
	For Ø	Remarks	Part No.	Type	
	16	For inductive proximity sensors type SIEN-M5	<b>161 041</b>	WSM-12-J-M5	
	20		<b>161 042</b>	WSM-16-J-M5	
	25		<b>161 043</b>	WSM-25-J-M5	
	32	For inductive proximity sensors type SIEN-M8	<b>161 044</b>	WSM-32-J-M8	
	40		<b>161 045</b>	WSM-40-J-M8	

Ordering data – Proximity sensor, inductive				Technical data → Volume 4	
	For Ø	Remarks	Connection	Part No.	Type
	16	For mounting kit WSM-...-J-M5	Cable	<b>150 370</b>	SIEN-M5B-PS-K-L
	20		Plug	<b>150 371</b>	SIEN-M5B-PS-S-L
	25				
	32	For mounting kit WSM-...-J-M8	Cable	<b>150 386</b>	SIEN-M8B-PS-K-L
40	Plug		<b>150 387</b>	SIEN-M8B-PS-S-L	

Ordering data – Slot cover for slot type 8					
	For Ø	Application	Mounting	Length [m]	Part No. Type
	16 ... 40	For sensor slots	Insertable from above	2x 0.5	<b>151 680</b> ABP-5-S
	16/20	For profile slots	Insertable from above	2x 0.5	<b>151 681</b> ABP-5
	25 ... 40				<b>151 682</b> ABP-8

Ordering data – Spare parts					
	For Ø	Designation	Part No.	Type	
	16	Cushioning pad for swivel lever	<b>342 628</b>	DSM-12-270P	
	20		<b>342 629</b>	DSM-16-270P	
	25		<b>342 660</b>	DSM-25-270P	
	32		<b>342 630</b>	DSM-32-270P	
	40		<b>342 631</b>	DSM-40-270P	
	16	Buffer for shock absorber	<b>351 444</b>	YSR-5-5-C	
	20/25		<b>353 634</b>	YSR-7-5-C	
	32		<b>334 644</b>	YSR-8-8-B/C	
	40		<b>334 645</b>	YSR-12-12-C	




Ordering data – One-way flow control valves				Technical data → Volume 2	
	Connection		Material	Part No.	Type
	Thread	For tubing OD			
For exhaust air					
	M5	3	Metal design	<b>193 137</b>	GRLA-M5-QS-3-D
		4		<b>193 138</b>	GRLA-M5-QS-4-D
		6		<b>193 139</b>	GRLA-M5-QS-6-D
	G1/8	3		<b>193 142</b>	GRLA-1/8-QS-3-D
		4		<b>193 143</b>	GRLA-1/8-QS-4-D
		6		<b>193 144</b>	GRLA-1/8-QS-6-D
		8		<b>193 145</b>	GRLA-1/8-QS-8-D




 Core Range





# Swivel/linear units DSL

Accessories

FESTO

Ordering data – Proximity sensor for slot type 8, magneto-resistive							Technical data → 1 / 10.2-13		
	Mounting	Switch output	Electrical connection			Cable length [m]	Part No.	Type	
			Cable	M8 plug	M12 plug				
<b>NO contact</b>									
	Insertable from above	PNP	3-wire	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE	☉
		NPN		–	–		525 909	SMT-8F-NS-24V-K2,5-OE	☉
		–	2-wire	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE	☉
		PNP	–	3-pin	–	0.3	525 899	SMT-8F-PS-24V-K0,3-M8D	☉
		NPN			–		525 910	SMT-8F-NS-24V-K0,3-M8D	☉
PNP	–	–	3-pin	0.3	525 900	SMT-8F-PS-24V-K0,3-M12	☉		
	Insertable, flush with the cylinder profile	PNP	3-wire	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B	
		–	3-pin	–	–	0.3	175 484	SMT-8-PS-S-LED-24-B	
<b>NC contact</b>									
	Insertable from above	PNP	3-wire	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE	☉

Ordering data – Proximity sensor for slot type 8, magnetic reed						Technical data → 1 / 10.2-16	
	Mounting	Electrical connection		Cable length [m]	Part No.	Type	
		Cable	M8 plug				
<b>NO contact</b>							
	Insertable from above	3-wire	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	☉
		–	–	5.0	525 897	SME-8F-DS-24V-K5,0-OE	☉
		2-wire	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	☉
	Insertable, flush with the cylinder profile	–	3-pin	0.3	525 896	SME-8F-DS-24V-K0,3-M8D	☉
		3-wire	–	2.5	150 855	SME-8-K-LED-24	
		–	3-pin	0.3	150 857	SME-8-S-LED-24	
<b>NC contact</b>							
	Insertable from above	3-wire	–	7.5	525 906	SME-8F-DO-24V-K7,5-OE	☉

Ordering data – Plug sockets						Technical data → 1 / 10.2-100	
	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type
		PNP	NPN				
<b>Straight socket with cable</b>							
	M8 union nut	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU
		■	■		5	159 421	SIM-M8-3GD-5-PU
	M12 union nut	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU
		■	■		5	159 429	SIM-M12-3GD-5-PU
<b>Angled plug socket with cable</b>							
	M8 union nut	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU
		■	■		5	159 423	SIM-M8-3WD-5-PU
	M12 union nut	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
		■	■		5	159 431	SIM-M12-3WD-5-PU

Core Range