

Tie rod cylinders DNG - Inch Series



- Piston Ø 1-1/4" to 6"
- Strokes up to 78.7"
- Double-acting
- Robust tie rod design
- Comprehensive range of accessories
- Repairable
- Adjustable trunnion mounting version available (DNGZK)

Product range overview									
Function	Version	Type	Piston Ø [in]	Stroke [in]	Force [lbf]	Variants			
						PPV	A	S2	S6
Double-acting	Basic version	DNG	1-1/4, 1-5/8, 2, 2-1/2, 3, 4, 5, 6	0.4 ... 78.7	108.3 ... 10,846	■	■	■	■
	With adjustable central trunnion mounting	DNGZK	1-1/4, 1-5/8, 2, 2-1/2, 3, 4, 5, 6	0.4 ... 78.7	108.3 ... 10,846	■	■	-	-

Variants					
PPV	Adjustable air cushioning at both ends	A	Magnet for position sensing	S6	Heat-resistant up to 150 °C
		S2	Through piston rod		

Tie rod cylinders, non-rotating version DNGL - Inch Series



- Piston \varnothing 1-1/4" to 4"
- Strokes up to 24"
- Double-acting
- Non-rotating, square piston rod
- Robust tie rod design
- Comprehensive range of accessories
- Repairable

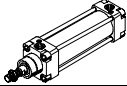
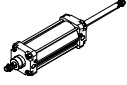
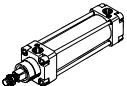
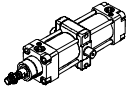
Product range overview							
Function	Version	Type	Piston \varnothing [in]	Stroke [in]	Force [lbf]	Variants	
						PPV	A
Double-acting	Single-ended non-rotating piston rod	DNGL	1-1/4, 1-5/8, 2, 2-1/2, 3, 4	0.4 ... 24	108.3 ... 1,059	■	■

Variants

PPV Adjustable air cushioning at both ends A Magnet for position sensing

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Product range overview

Function	Design	Type	Piston \varnothing [in]	Standard Stroke [in]	Variable Stroke [in]
Double-acting	Basic version				
		DNG Single-ended piston rod	1-1/4, 1-5/8, 2, 2-1/2, 3, 4, 5	1, 2, 3, 4, 5, 6, 8, 10, 12, 16, 20	0.4 ... 78.7
			6	-	0.4 ... 78.7
		DNG-...-S2 Through piston rod	1-1/4, 1-5/8, 2, 2-1/2, 3, 4, 5, 6	-	0.4 ... 78.7
	Non-rotating piston rod				
		DNGL Single-ended piston rod	1-1/4	-	0.4 ... 12
			1-5/8	-	0.4 ... 16
			2, 2-1/2	-	0.4 ... 20
			3, 4	-	0.4 ... 24
	With central trunnion mounting				
		DNGZK adjustable	1-1/4, 1-5/8, 2, 2-1/2, 3, 4, 5, 6	-	0.4 ... 78.7

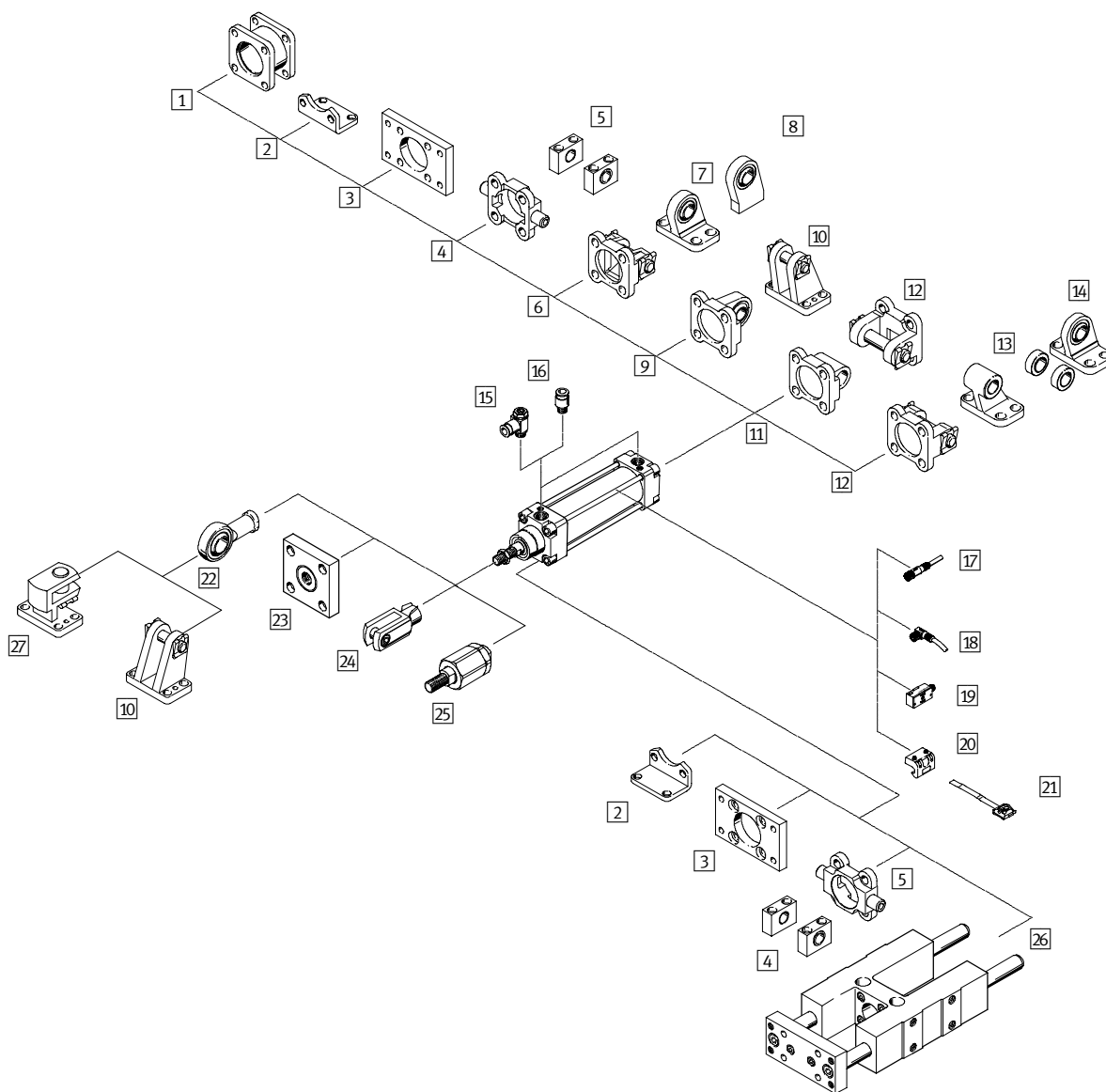
Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Product range overview

Type	Magnet for position sensing	Adjustable cushioning	Piston rod	Heat-resistant seals up to 302 °F
	A		PPV	
Basic version				
DNG Single-ended piston rod	■	■	■	■
DNG-...-S2 Through piston rod	■	■	■	-
non-rotating piston rod				
DNGL Single-ended piston rod	■	■	■	-
with central trunnion mounting				
DNGZK adjustable	■	■	■	-

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories overview



Mounting attachments and accessories	
	Description
1	Adapter kit DPNG For connecting two DNG cylinders with identical piston \varnothing to form a multi-position cylinder
2	Foot mounting HNG For bearing and end caps
3	Flange mounting FNG For bearing or end caps
4	Trunnion flange ZNG For bearing or end caps
5	Trunnion support For bearing or end caps
6	Swivel flange SNG For end caps

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

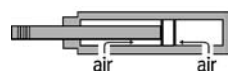
Accessories overview

Mounting attachments and accessories		Description
7	Clevis foot mounting LSNG	With spherical bearing
8	Clevis foot mounting LSNSG	Weld-on, with spherical bearing
9	Swivel flange SSNG	With spherical bearing for clevis foot mounting LBG
10	Clevis foot mounting LBG	With non-rotating pivot pin
11	Swivel flange SNGL	For end caps
12	Swivel flange SNGB	For end caps
13	Clevis foot mounting LNG	For swivel flange SNGB
14	Clevis foot mounting LSN	With spherical bearing
15	One-way flow control valve GRLA	For speed regulation
16	Push-in fitting QS	For connecting compressed air tubing with standard O.D.
17	Plug socket with cable, straight SIM-M8	–
18	Plug socket with cable, angled SIM-M8	–
19	Proximity sensors SMEO-1/SMT0-1/SMPO-1-H-B	–
20	Sensor mounting kit SMB	For proximity sensor SMEO-1/SMT0-1
21	Sensor mounting kit SMBS	For proximity sensor SMPO-1-H-B
22	Rod eye SGS	With spherical bearing
23	Coupling piece KSZ	For compensating radial deviations
24	Rod clevis SG	Permits a swivelling movement of the cylinder in one plane
25	Self-aligning rod coupler FK	For compensating radial and angular deviations
26	Guided unit FENG	To protect against torsion at high torque loads
27	Right-angle clevis foot LQG	With non-rotating pivot pin

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Technical data

Double-acting

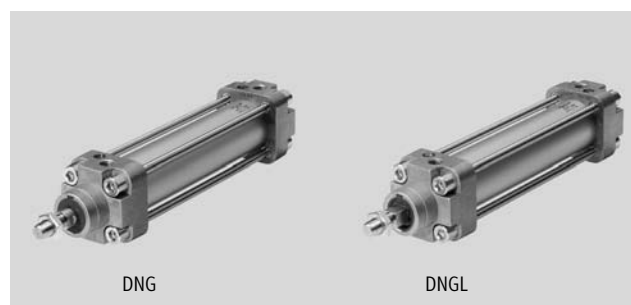


Variants

- Through piston rod (S2)
- Heat resistant seals (S6)

- Ø - Diameter
1-1/4 ... 6 in

- l - Stroke length
0.4 ... 78.7 in



General technical data								
Piston Ø	1-1/4	1-5/8	2	2-1/2	3	4	5	6
Pneumatic connection	1/8 NPT	1/4 NPT	1/4 NPT	3/8 NPT	3/8 NPT	1/2 NPT	1/2 NPT	3/4 NPT
Piston rod thread	3/8-24 UNF	1/2-20 UNF	5/8-18 UNF	5/8-18 UNF	3/4-16 UNF	3/4-16 UNF	1-12 UNF	1-1/2-12 UNF
Operating medium	Filtered compressed air, lubricated or unlubricated							
Design	Piston							
	Piston rod							
	Profile barrel							
Cushioning	Adjustable air cushioning at both ends							
Cushioning length [in]	0.7	0.8	0.9	0.9	1.2	1.2	1.6	1.6
Magnet for position sensing ¹⁾	Standard							

1) Position sensing via magnetic proximity sensor (ordered separately, see accessories).

Operating and environmental conditions								
Piston Ø	1-1/4	1-5/8	2	2-1/2	3	4	5	6
Operating pressure [psi]	176.4							147.0
Ambient temperature ¹⁾ [°F]	-4 ... +176							

1) Note operating range of proximity sensors

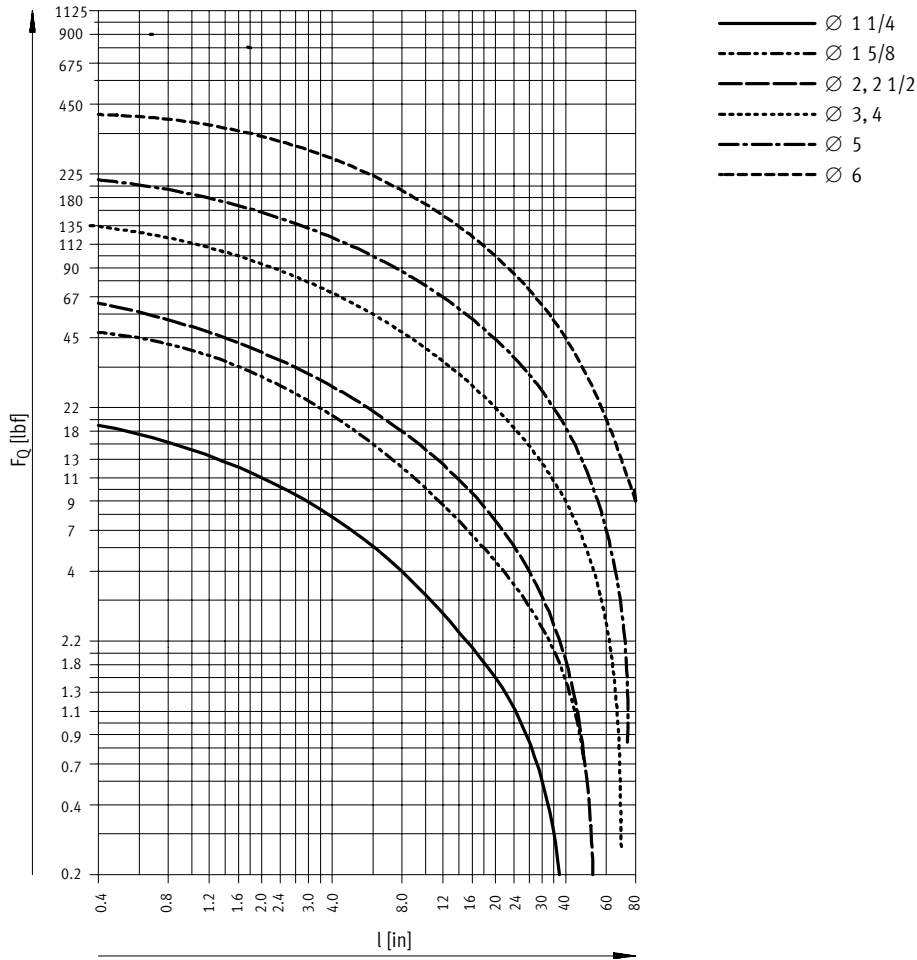
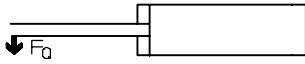
Forces [lbf]								
Piston Ø	1-1/4	1-5/8	2	2-1/2	3	4	5	6
Theoretical force at 90 psi, extending	108	169	256	420	678	1,060	1,655	2,712
Theoretical force at 90 psi, retracting	93	142	223	378	512	994	1,547	2,543

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Technical data

FESTO

Lateral force F_Q as a function of the stroke length l



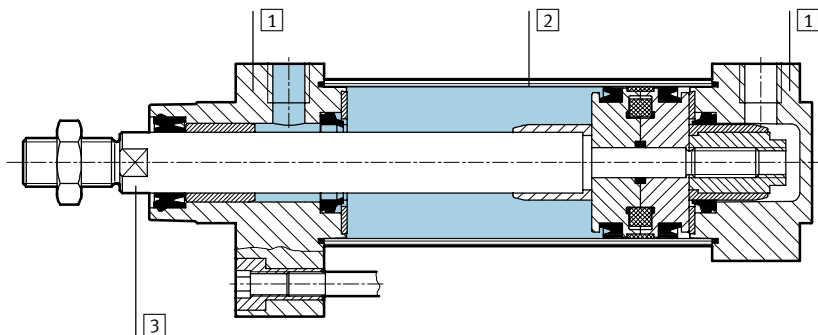
Weights [oz]								
Piston \varnothing	1-1/4	1-5/8	2	2-1/2	3	4	5	6
DNG/DNGL								
Product weight at 0 inch stroke	19.9	27.9	49.4	60.8	101.4	144.6	257.7	609.0
Additional weight per 1 inch stroke	2.7	3.6	4.5	5.4	7.2	9.0	12.5	17.0
DNGZK								
Product weight at 0 inch stroke	28.9	45.0	68.6	97.5	139.7	219.0	360.3	688.2
Additional weight per 1 inch stroke	2.7	3.6	4.5	5.4	7.2	9.0	12.5	17.0

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

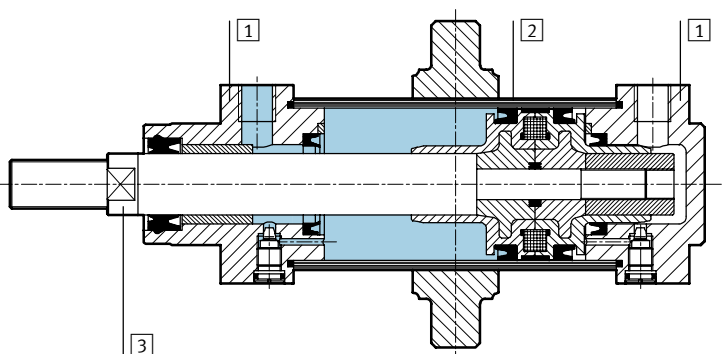
Technical data

Materials

Sectional view DNG/DNGL



Sectional view DNGZK



Standard cylinder	DNG/DNGL	DNGZK
1 Bearing and end caps	Aluminum	Die-cast aluminum
2 Cylinder barrel	Aluminum	Aluminum (Ø 6": brass)
3 Piston rod, tie rod	High-alloy steel	
- Seals	Polyurethane, nitrile rubber	

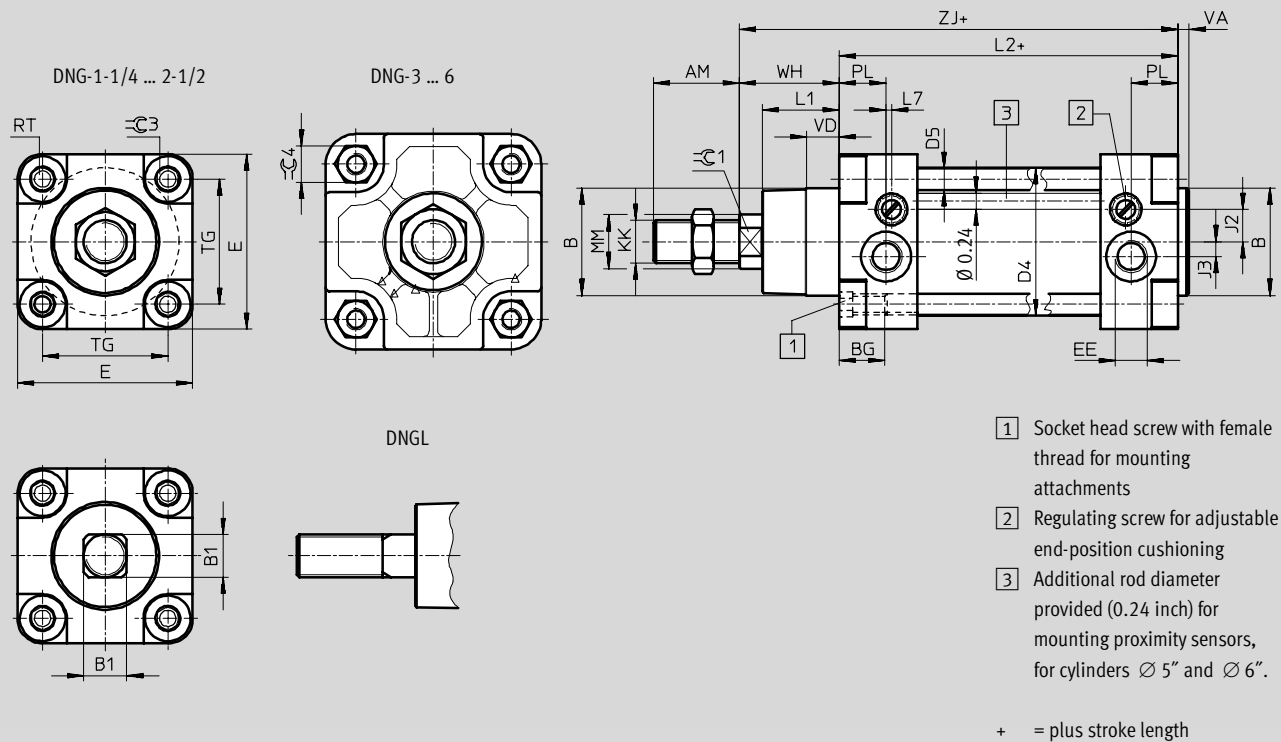
Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Technical data

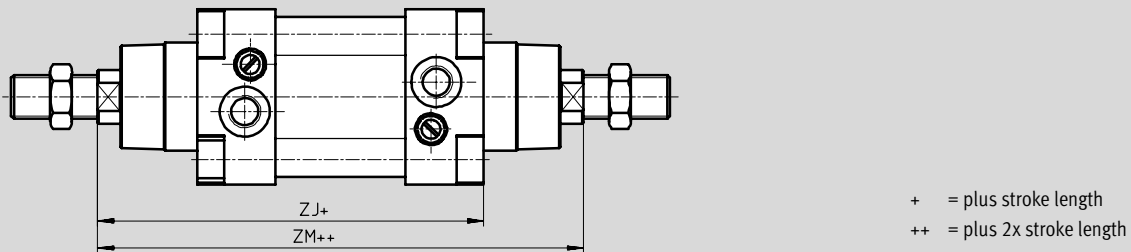
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Dimensions

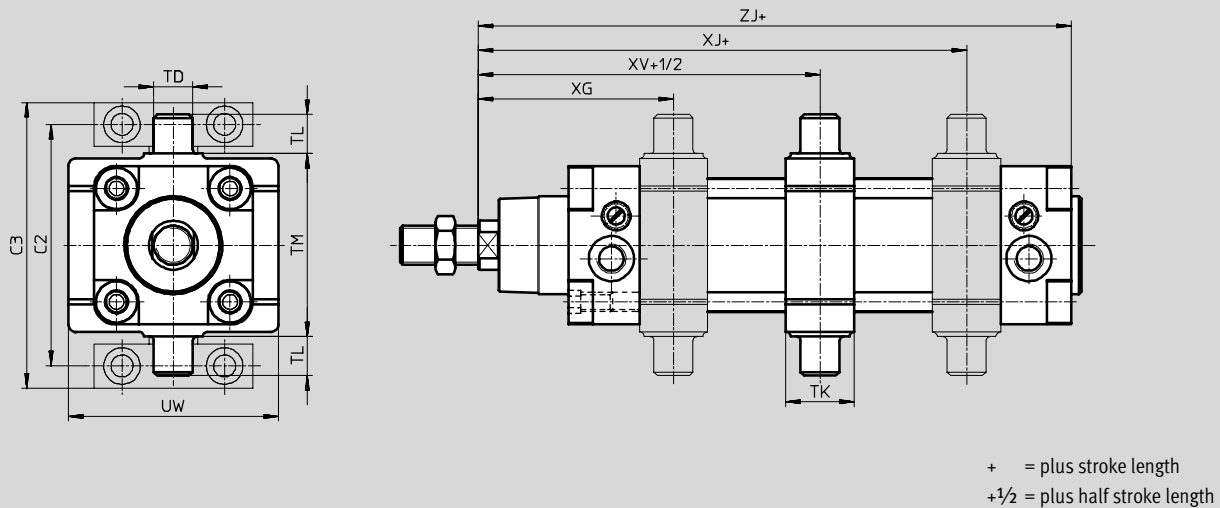
DNG/DNGL



Variant S2 – Through piston rod



DNGZK



Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Technical data

∅ [in]	AM	B ∅ d11	B1 f9	BG	C2	C3	D4 ∅	D5 ∅	E	EE	J2	J3
1-1/4	0.9	1.2	0.4	0.7	2.8	3.4	1.5	0.2	2.0	1/8 NPT	0.3	-
1-5/8	0.9	1.4	0.5	0.6	3.4	4.1	1.8	0.2	2.2	1/4 NPT	0.4	0.10
2	1.3	1.6	0.6	0.7	3.9	4.6	2.2	0.3	2.6	1/4 NPT	0.5	0.22
2-1/2	1.3	1.8	0.6	0.8	4.6	5.4	2.7	0.3	3.0	3/8 NPT	0.6	0.2
3	1.6	1.8	0.8	0.8	5.4	6.1	3.4	0.4	3.9	3/8 NPT	0.6	0.3
4	1.6	2.2	0.8	0.8	6.1	7.4	4.2	0.4	4.7	1/2 NPT	0.5	0.3
5	2.1	2.4	-	1.0	7.4	8.5	5.2	0.5	5.7	1/2 NPT	0.5	0.3
6	2.8	2.6	-	0.9	8.5	11.	6.6	0.6	7.3	3/4 NPT	0.9	0.9

∅ [in]	KK	L1	L2	L7	MM ∅	PL	RT	TD ∅ e9	TG	TK	TL
1-1/4	3/8-24 UNF	0.7	3.7 ±0.02	0.23	0.5	0.3	M6	0.5	1.3	0.8	0.5
1-5/8	1/2-20 UNF	0.8	4.1 ±0.03	0.21	0.6	0.4	M6	0.6	1.5	1.0	0.6
2	5/8-18 UNF	1.1	4.2 ±0.03	0.08	0.8	0.7	M8	0.6	1.8	1.1	0.6
2-1/2	5/8-18 UNF	1.1	4.8 ±0.03	0.2	0.8	0.7	M8	0.8	2.2	1.2	0.8
3	3/4-16 UNF	1.4	5.0 ±0.03	0.3	1.0	0.7	M10	0.8	2.8	1.3	0.8
4	3/4-16 UNF	1.5	5.4 ±0.03	0.5	1.0	0.7	M10	1.0	3.5	1.5	1.0
5	1-12 UNF	1.8	6.3 ±0.03	0.6	1.3	0.7	M12	1.0	4.3	1.7	1.0
6	1-1/2-12 UNF	2.2	7.1 ±0.03	-	1.6	1.0	M16	1.3	5.5	1.9	1.3

∅ [in]	TM	UW	VA	VD	WH	XG	XJ	XV	ZJ	ZM	≈C1 [mm]	≈C3 [mm]	≈C4 [mm]
1-1/4	2.0	2.7	0.2	0.41	1.0	2.4 ±0.07	3.3 ±0.07	2.9 ±0.07	4.7	5.7	10	6	-
1-5/8	2.5	2.8	0.2	0.41	1.2	2.7 ±0.07	3.8 ±0.07	3.2 ±0.07	5.3	6.5	13	6	-
2	3.0	3.4	0.2	0.47	1.5	3.1 ±0.07	3.9 ±0.07	3.5 ±0.07	5.6	7.1	17	8	-
2-1/2	3.5	3.9	0.2	0.49	1.5	3.4 ±0.09	4.3 ±0.09	3.8 ±0.09	6.2	7.7	17	8	-
3	4.3	4.3	0.2	0.65	1.8	4.0 ±0.09	4.7 ±0.09	4.3 ±0.09	6.9	8.7	22	-	17
4	5.2	5.4	0.2	0.61	2.0	4.4 ±0.09	5.0 ±0.09	4.7 ±0.09	7.4	9.4	22	-	17
5	6.3	6.3	0.2	0.81	2.6	5.4 ±0.09	6.1 ±0.09	5.7 ±0.09	8.9	11.4	27	-	19
6	7.9	7.9	0.2	-	3.1	6.1 ±0.10	6.7 ±0.10	6.7 ±0.10	10.2	13.4	36	-	32

Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG - Inch Series

Ordering data

M Mandatory data				O Options		
Function	Piston Ø	Stroke	Cushioning	Magnet for position sensing	Type of piston rod	Temperature-resistant
DNG	1 1/4 1 5/8 2 2 1/2 3 4 5 6	0.4 ... 78.7	PPV	A	S2	S6
DNG	- 3	- 60	- PPV	- A	-	- S6

Ordering table											
Size	1 1/4	1 5/8	2	2 1/2	3	4	5	6	Conditions	Code	Enter code
M Function	Basic version, standard cylinder, double-acting									DNG	DNG
Piston Ø [in]	1 1/4	1 5/8	2	2 1/2	3	4	5	6		-...	
Stroke [in]	0.4 ... 78.7									-...	
Cushioning	Adjustable air cushioning at both ends									- PPV	-PPV
Magnet for position sensing	For use with magnetic proximity sensor									- A	-A
O Type of piston rod	Through piston rod									- S2	
Temperature-resistant	Heat-resistant seals up to max. 302 °F									¹	- S6

¹ Not available in combination with -S2

Transfer order code

DNG - - - **PPV** - **A** -

Tie rod cylinders, non-rotating version DNGL - Inch Series

Ordering data

M Mandatory data				
Function	Piston Ø	Stroke	Cushioning	Magnet for position sensing
DNGL	1 1/4 1 5/8 2 2 1/2 3 4	0.4 ... 24	PPV	A
DNGL	- 3	- 20	- PPV	- A

Ordering table								
Size	1 1/4	1 5/8	2	2 1/2	3	4	Code	Enter code
M Function	Non-rotating piston rod, standard cylinder, double-acting						DNGL	DNGL
Piston Ø [in]	1 1/4	1 5/8	2	2 1/2	3	4	-...	
Stroke [in]	0.4 ... 12	0.4 ... 16	0.4 ... 20		0.4 ... 24		-...	
Cushioning	Adjustable air cushioning at both ends						-PPV	-PPV
Magnet for position sensing ¹⁾	Standard						-A	-A

1) Position sensing via magnetic proximity sensor (ordered separately, see accessories).

Transfer order code

DNGL	-		-		-	PPV	-	A
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Tie rod cylinders, with adjustable trunnion mounting DNGZK - Inch Series



Ordering data

M Mandatory data				
Function	Piston Ø	Stroke	Cushioning	Magnet for position sensing
DNGZK	1 1/4 1 5/8 2 2 1/2 3 4 5 6	0.4 ... 78.7	PPV	A
DNGZK	- 3	- 60	- PPV	- A

Ordering table										
Size	1 1/4	1 5/8	2	2 1/2	3	4	5	6	Code	Enter code
M Function	Adjustable standard cylinder, double-acting, with central trunnion mounting								DNGZK	DNGZK
Piston Ø [in]	1 1/4	1 5/8	2	2 1/2	3	4	5	6	-...	
Stroke [in]	0.4 ... 78.7								-...	
Cushioning	Adjustable air cushioning at both ends								-PPV	-PPV
Magnet for position sensing ¹⁾	For use with magnetic proximity sensor								-A	-A

Transfer order code

DNGZK	-		-		-	PPV	-	A
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Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories

Adapter kit DPNG

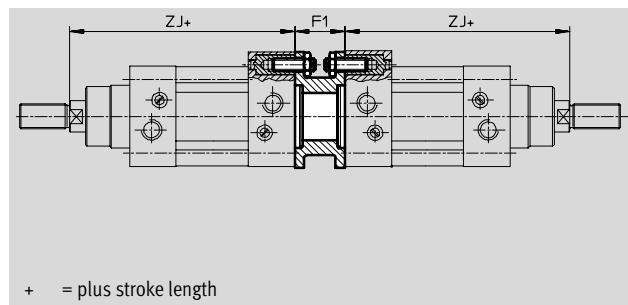
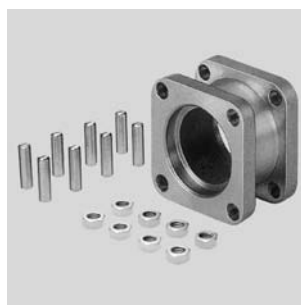
for piston \varnothing 1-1/4 ... 4 inch

Material:

Flange: Wrought aluminum alloy;

Threaded studs, hex nuts: Galvanized steel

Free of copper, PTFE and silicone



Dimensions and ordering data						
For \varnothing	F1	ZJ	Max. overall stroke length	CRC ¹⁾	Weight	Part No. Type
[in]			[in]		[oz]	
1-1/4	1.1	4.7	39.4	2	3.0	159485 DPNG-32
1-5/8	1.1	5.3	39.4	2	4.1	159486 DPNG-40
2	1.3	5.6	39.4	2	7.4	159487 DPNG-50
2-1/2	1.1	6.2	39.4	2	12.7	159488 DPNG-63
3	1.5	6.9	39.4	2	21.9	159489 DPNG-80
4	1.5	7.4	39.4	2	42.0	159490 DPNG-100

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Connecting two cylinders with identical piston \varnothing as a 3 or 4-position cylinder

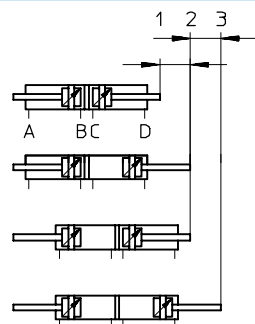
A 3 or 4-position cylinder consists of two separate cylinders whose piston rods advance in opposing directions. This means that depending upon actuation and stroke pattern, this type

of cylinder can assume up to four positions. In each case the cylinder is driven precisely against a stop. Note that when one end of the piston rod is

fixed, the cylinder barrel executes the movement. The cylinder must be connected with flexible line connections.

To achieve 3 positions

Two cylinders with identical stroke length must be connected together.

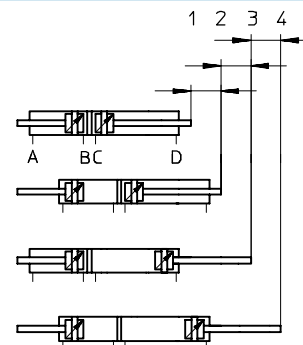


Note

Do not exceed the maximum overall stroke length listed when combining cylinders and the adapter kit.

To achieve 4 positions

Two cylinders with different stroke lengths must be connected together.



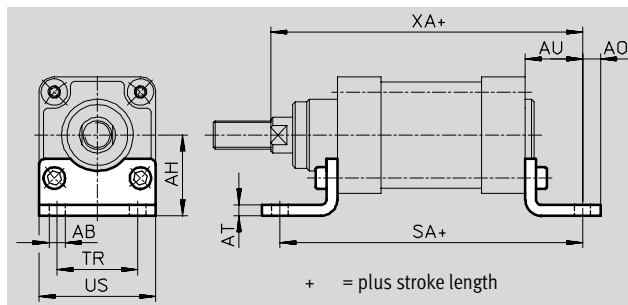
Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories

Foot mounting HNG

Material:
Galvanized steel
Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	AB	AH	AO	AT	AU	SA	TR	US	XA	CRC ¹⁾	Weight	Part No.	Type
[in]	\varnothing										[oz]		
1-1/4	0.3	1.3	0.3	0.2	0.9	5.6	1.3	1.8	5.7	2	7.9	32947	HNG-32
1-5/8	0.4	1.4	0.4	0.2	1.1	6.3	1.4	2.1	6.4	2	9.5	32948	HNG-40
2	0.4	1.8	0.4	0.2	1.3	6.7	1.8	2.5	6.9	2	14.1	32949	HNG-50
2-1/2	0.4	2.0	0.5	0.2	1.3	7.3	2.0	3.0	7.5	2	16.9	32950	HNG-63
3	0.5	2.5	0.6	0.2	1.6	8.3	2.5	3.7	8.5	2	38.1	32951	HNG-80
4	0.6	2.8	0.7	0.2	1.6	8.7	3.0	4.3	9.1	2	44.1	32952	HNG-100
5	0.6	3.5	0.9	0.3	1.8	9.8	3.5	5.2	10.6	2	71.4	32953	HNG-125
6	0.7	4.5	0.8	0.4	2.4	11.8	4.5	6.7	12.6	2	77.6	34476	HNG-160

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories

Flange mounting FNG

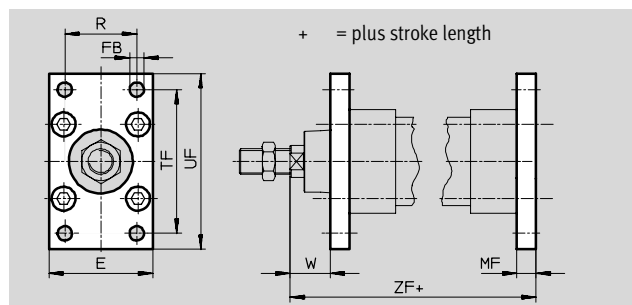
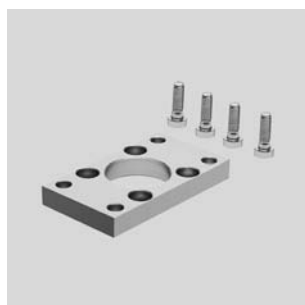
Material:

FNG-32 ... 100: Galvanized steel

FNG-125 ... 160: Painted nodular

graphite cast iron

Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	E	FB	MF	R	TF	UF	W	ZF	CRC ¹⁾	Weight	Part No.	Type	
[in]		\varnothing								[oz]			
1-1/4	1.8	0.3	0.4	1.3	2.5	3.1	0.6	5.1	2	8.6	32940	FNG-32	
1-5/8	2.1	0.4	0.4	1.4	2.8	3.5	0.8	5.7	2	10.2	32941	FNG-40	
2	2.6	0.4	0.5	1.8	3.5	4.3	1.0	6.1	2	18.3	32942	FNG-50	
2-1/2	3.0	0.4	0.5	2.0	3.9	4.7	1.0	6.7	2	24.3	32943	FNG-63	
3	3.7	0.5	0.6	2.5	5.0	5.9	1.2	7.5	2	58.6	32944	FNG-80	
4	4.3	0.6	0.6	3.0	5.9	6.9	1.4	8.1	2	84.5	32945	FNG-100	
5	5.5	0.6	0.8	3.5	7.1	8.7	1.8	9.6	2	160.8	32946	FNG-125	
6	7.1	0.7	0.8	4.5	9.1	11.0	2.4	11.0	2	218.7	34478	FNG-160	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

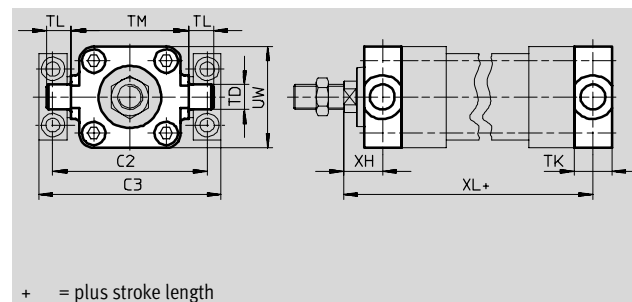
Trunnion flange ZNG

for trunnion mounting

Material:

Corrosion resistant cast steel

Free of copper, PTFE and silicone



Dimensions and ordering data													
For \varnothing	C2	C3	TD	TK	TL	TM	UW	XH	XL	CRC ¹⁾	Weight	Part No.	Type
[in]			\varnothing								[oz]		
1-1/4	2.8	3.4	0.5	0.6	0.5	2.0	2.0	0.7	5.0	2	6.7	31754	ZNG-32
1-5/8	3.4	4.1	0.6	0.8	0.6	2.5	2.2	0.8	5.7	2	11.6	31755	ZNG-40
2	3.9	4.6	0.6	0.9	0.6	3.0	2.6	1.0	6.1	2	18.9	31756	ZNG-50
2-1/2	4.6	5.4	0.8	0.9	0.8	3.5	3.0	1.0	6.7	2	28.2	31757	ZNG-63
3	5.4	6.1	0.8	1.1	0.8	4.3	3.9	1.3	7.4	2	48.7	31758	ZNG-80
4	6.5	7.4	1.0	1.5	1.0	5.2	4.7	1.3	8.2	2	96.8	31759	ZNG-100
5	7.6	8.5	1.0	2.0	1.0	6.3	5.9	1.6	9.8	2	179.9	31760	ZNG-125

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

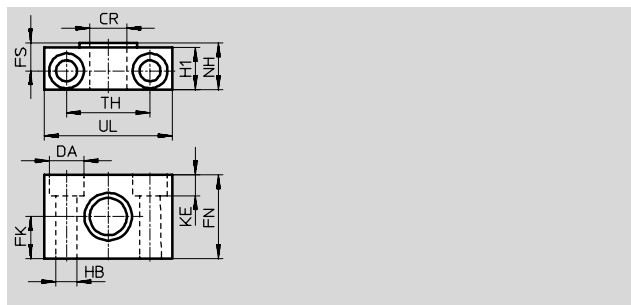
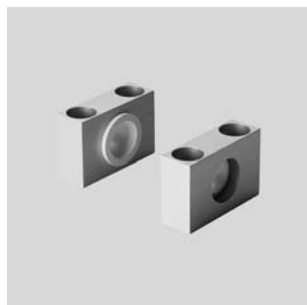
Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories

LNZG trunnion support

Material:
Galvanized steel



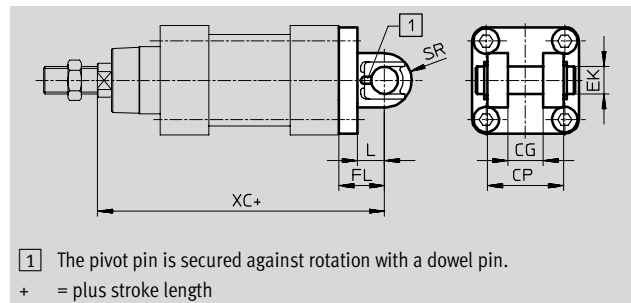
Dimensions and ordering data														Part No.	Type
For Ø	CR	DA	FK	FN	FS	H1	HB	KE	NH	TH	UL	CRC ¹⁾	Weight		
[in]	Ø	Ø	Ø				Ø						[oz]		
1-1/4	0.5	0.4	0.6	1.2	0.4	0.6	0.3	0.3	0.7	1.3	1.8	2	4.4	32959	LNZG-32
1-5/8, 2	0.6	0.6	0.7	1.4	0.5	0.7	0.4	0.4	0.8	1.4	2.2	2	14.1	32960	LNZG-40/50
2-1/2, 3	0.8	0.7	0.8	1.6	0.5	0.8	0.4	0.4	0.9	1.7	2.6	2	16.9	32961	LNZG-63/80
4, 5	1.0	0.8	1.0	2.0	0.6	1.0	0.5	0.5	1.1	2.0	3.0	2	33.9	32962	LNZG-100/125
6	1.3	1.0	1.2	2.4	0.9	1.4	0.7	0.7	1.6	2.4	3.6	2	69.3	35780	LNZG-160/200

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Swivel flange SNG

for clevis foot LSNG/LSNSG

Material:
Die-cast aluminum



Dimensions and ordering data											Part No.	Type
For Ø	CG	CP	EK	FL	L	SR	XC	CRC ¹⁾	Weight			
[in]			Ø						[oz]			
1-1/4	0.6	1.3	0.4	0.9	0.5	0.4	5.6	2	6.7	32968	SNG-32	
1-5/8	0.6	1.6	0.5	1.0	0.6	0.5	6.3	2	9.5	32969	SNG-40	
2	0.8	1.8	0.6	1.1	0.6	0.6	6.7	2	15.7	32970	SNG-50	
2-1/2	0.8	2.0	0.6	1.3	0.8	0.7	7.5	2	23.8	32971	SNG-63	
3	1.0	2.6	0.8	1.4	0.9	0.8	8.3	2	44.6	32972	SNG-80	
4	1.0	3.0	0.8	1.6	1.1	0.9	9.1	2	63.1	32973	SNG-100	
5	1.5	3.8	1.2	2.0	1.2	1.0	10.8	2	141.1	32974	SNG-125	
6	1.7	4.8	1.4	2.2	1.4	1.3	12.4	2	231.3	152597	SNG-160	

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

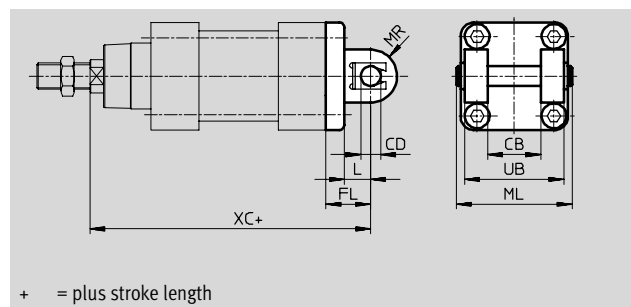
Accessories

Swivel flange SNGB

for clevis foot LN/LSN

Material:

Die-cast aluminum



Dimensions and ordering data												
For \varnothing	CB	CD	FL	L	ML	MR	UB	XC	CRC ¹⁾	Weight	Part No.	Type
[in]	\varnothing	\varnothing								[oz]		
1-1/4	1.0	0.4	0.9	0.5	2.2	0.4	1.8	5.6	2	4.4	34540	SNGB-32
1-5/8	1.1	0.5	1.0	0.6	2.5	0.5	2.0	6.3	2	6.2	34541	SNGB-40
2	1.3	0.5	1.1	0.6	2.8	0.5	2.4	6.7	2	8.6	34542	SNGB-50
2-1/2	1.6	0.6	1.3	0.8	3.3	0.6	2.8	7.5	2	13.4	34543	SNGB-63
3	2.0	0.6	1.4	0.9	4.1	0.6	3.5	8.3	2	21.5	34544	SNGB-80
4	2.4	0.8	1.6	1.1	5.0	0.8	4.3	9.1	2	36.7	34545	SNGB-100
5	2.8	1.0	2.0	1.2	5.8	1.0	5.1	10.8	2	61.7	34546	SNGB-125
6	3.5	1.2	2.2	1.4	7.4	1.0	6.7	12.4	2	109.3	34547	SNGB-160

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

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

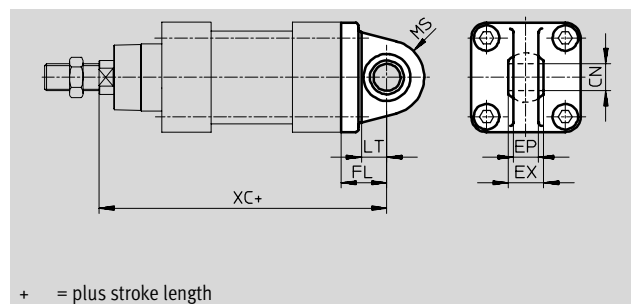
Swivel flange SSNG

with spherical bearing

for clevis foot LBG

Material:

Nodular graphite cast iron



Dimensions and ordering data												
For \varnothing	CN	EP	EX	FL	LT	MS	XC	CRC ¹⁾	Weight	Part No.	Type	
[in]	\varnothing								[oz]			
1-1/4	0.4	0.4	0.6	0.9	-	0.6	5.6	2	6.9	34291	SSNG-32	
1-5/8	0.5	0.5	0.6	1.0	-	0.7	6.3	2	9.0	34292	SSNG-40	
2	0.6	0.6	0.8	1.1	-	0.8	6.7	2	15.2	34293	SSNG-50	
2-1/2	0.6	0.6	0.8	1.3	0.7	0.9	7.5	2	19.9	34294	SSNG-63	
3	0.8	0.7	1.0	1.4	0.8	1.1	8.3	2	33.2	34295	SSNG-80	
4	0.8	0.7	1.0	1.6	0.9	1.2	9.1	2	53.3	34296	SSNG-100	
5	1.2	1.0	1.5	2.0	1.1	1.6	10.8	2	108.7	34568	SSNG-125	

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

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

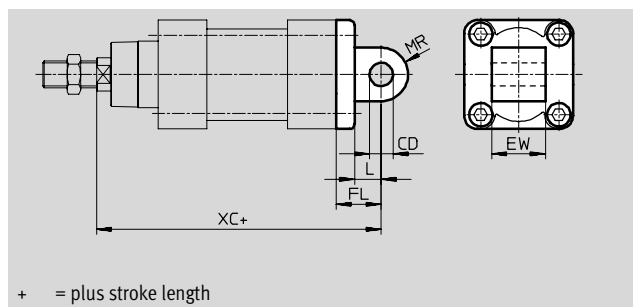
Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories

Swivel flange SNGL

Material:
Die-cast aluminum



+ = plus stroke length







Dimensions and ordering data										
For Ø	CD Ø	EW	FL	L	MR	XC	CRC ¹⁾	Weight	Part No.	Type
[in]								[oz]		
1-1/4	0.4	1.0	0.9	0.5	0.4	5.6	2	2.6	151527	SNGL-32
1-5/8	0.5	1.1	1.0	0.6	0.5	6.3	2	3.7	151528	SNGL-40
2	0.5	1.3	1.1	0.6	0.5	6.7	2	6.5	151529	SNGL-50
2-1/2	0.6	1.6	1.3	0.8	0.6	7.5	2	9.5	151530	SNGL-63
3	0.6	2.0	1.4	0.9	0.6	8.3	2	17.7	151531	SNGL-80
4	0.8	2.4	1.6	1.1	0.8	9.1	2	27.1	151532	SNGL-100
5	1.0	2.8	2.0	1.2	1.0	10.8	2	50.5	151533	SNGL-125
6	1.2	3.5	2.2	1.4	1.0	12.4	2	79.4	151534	SNGL-160


1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

Accessories





Ordering data – Mounting attachments				Ordering data – Mounting attachments			
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Clevis foot LSNG				Weld-on clevis foot LSNSG			
	1-1/4	31740	LSNG-32		1-1/4	31747	LSNSG-32
	1-5/8	31741	LSNG-40		1-5/8	31748	LSNSG-40
	2	31742	LSNG-50		2	31749	LSNSG-50
	2-1/2	31743	LSNG-63		2-1/2	31750	LSNSG-63
	3	31744	LSNG-80		3	31751	LSNSG-80
	4	31745	LSNG-100		4	31752	LSNSG-100
	5	31746	LSNG-125		5	31753	LSNSG-125
6	152599	LSNG-160	6	–			
Clevis foot LBG				Clevis foot LNG			
	1-1/4	31761	LBG-32		1-1/4	33890	LNG-32
	1-5/8	31762	LBG-40		1-5/8	33891	LNG-40
	2	31763	LBG-50		2	33892	LNG-50
	2-1/2	31764	LBG-63		2-1/2	33893	LNG-63
	3	31765	LBG-80		3	33894	LNG-80
	4	31766	LBG-100		4	33895	LNG-100
	5	31767	LBG-125		5	33896	LNG-125
6	–		6	–			
Clevis foot LSN				Clevis foot, right-angled LQG			
	1-1/4	5561	LSN-32		1-1/4	31768	LQG-32
	1-5/8	5562	LSN-40		1-5/8	31769	LQG-40
	2	5563	LSN-50		2	31770	LQG-50
	2-1/2	5564	LSN-63		2-1/2	31771	LQG-63
	3	5565	LSN-80		3	31772	LQG-80
	4	5566	LSN-100		4	31773	LQG-100
	5	6987	LSN-125		5	31774	LQG-125
6	6988	LSN-160	6	–			

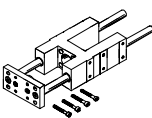
Ordering data – One-way flow control valves				
	Connection		Part No.	Type
	Thread	For tubing OD		
	1/8 NPT	5/32"	165009	GRLA-1/8-NPT-QS-5/32-U
		3/16"	190941	GRLA-1/8-NPT-QS-3/16-U
		1/4"	165010	GRLA-1/8-NPT-QS-1/4-U
		5/16"	165013	GRLA-1/8-NPT-QS-5/16-U
	1/4 NPT	3/16"	190944	GRLA-1/4-NPT-QS-3/16-U
		1/4"	165011	GRLA-1/4-NPT-QS-1/4-U
		5/16"	165014	GRLA-1/4-NPT-QS-5/16-U
		3/8"	190947	GRLA-1/4-NPT-QS-3/8-U
	3/8 NPT	1/4"	165012	GRLA-3/8-NPT-QS-1/4-U
		5/16"	165015	GRLA-3/8-NPT-QS-5/16-U
		3/8"	190950	GRLA-3/8-NPT-QS-3/8-U
		1/2"	190951	GRLA-3/8-NPT-QS-1/2-U
	1/2 NPT	3/8"	190952	GRLA-1/2-NPT-QS-3/8-U
		1/2"	190953	GRLA-1/2-NPT-QS-1/2-U

Tie rod cylinders DNG/DNGL/DNGZK - Inch Series

FESTO


Accessories


Ordering data – Piston rod attachments				Ordering data – Piston rod attachments			
Designation	For Ø [in]	Part No.	Type	Designation	For Ø [in]	Part No.	Type
Rod eye SGS				Self-aligning rod coupler FK			
	1-1/4	532696	SGS-3/8-24		1-1/4	532705	FK-3/8-24
	1-5/8	532697	SGS-1/2-20		1-5/8	532706	FK-1/2-20
	2	532698	SGS-5/8-18		2	532707	FK-5/8-18
	2-1/2				2-1/2		
	3	532699	SGS-3/4-16		3	532708	FK-3/4-16
	4				4		
	5	532700	SGS-1-12		4	532709	FK-1-12
6	532701	SGS-1 1/2-12	6	532710	FK-1 1/2-12		
Rod clevis SG				Coupling piece KSZ			
	1-1/4	546540	SG-3/8"-24-B		1-1/4	36129	KSZ-3/8-24-UNF
	1-5/8	546545	SG-1/2-20-B		1-5/8	36130	KSZ-1/2-20-UNF
	2	546575	SG-5/8-18-B		2	36131	KSZ-5/8-18-UNF
	2-1/2				2-1/2		
	3	546576	SG-3/4-16-B		3	36132	KSZ-3/4-16-UNF
	4				4		
	5	-	-		5	-	-
6							

Ordering data – Guide units for variable strokes						
	For Ø [in]	Stroke [in]	With recirculating ball bearing guide		With plain bearing guide	
			Part No.	Type	Part No.	Type
	1-1/4	0.39 ... 20	151746	FENG-1 1/4"-...-KF	151740	FENG-1 1/4"-...-
	1-5/8	0.39 ... 20	151747	FENG-1 5/8"-...-KF	151741	FENG-1 5/8"-...-
	2	0.39 ... 20	151748	FENG-2"-...-KF	151742	FENG-2"-...-
	2-1/2	0.39 ... 20	151749	FENG-2 1/2"-...-KF	151743	FENG-2 1/2"-...-
	3	0.39 ... 20	151750	FENG-3"-...-KF	151744	FENG-3"-...-
	4	0.39 ... 20	151751	FENG-4"-...-KF	151745	FENG-4"-...-


Tie rod cylinders DNG/DNGL/DNGZK - Inch Series


Accessories



Ordering data – Rectangular proximity sensor, magneto-resistive							
	Mounting	Switch output	Electrical connection		Cable length [ft]	Part No.	Type
			Cables	M8 plug			
NO contact							
	Via mounting kit	PNP	3-wire	–	8.2	151683	SMTO-1-PS-K-LED-24-C
			–	3-pin	–	151685	SMTO-1-PS-S-LED-24-C
		NPN	3-wire	–	8.2	151684	SMTO-1-NS-K-LED-24-C
			–	3-pin	–	151686	SMTO-1-NS-S-LED-24-C

Ordering data – Rectangular proximity sensor, magnetic reed						
	Mounting	Electrical connection		Cable length [ft]	Part No.	Type
		Cables	M8 plug			
NO contact						
	Via mounting kit	3-wire	–	8.2	30459	SMEO-1-LED-24-B
		3-wire	–	16.4	151672	SMEO-1-LED-24-K5-B
		–	3-pin	–	150848	SMEO-1-S-LED-24-B

Ordering data – Mounting kit						
	For Ø [in]	Mounting		Part No.	Type	
	1-1/4 ... 2	Directly on the mounting or tie rod		36162	SMB-2-B	
	5 ... 6					
	2-1/2 ... 4			36163	SMB-3-B	

Ordering data – Rectangular proximity sensor, pneumatic						
	Mounting	Pneumatic connection		Part No.	Type	
3/2-way valve, normally closed						
	Via mounting kit	Barbed fitting for tubing ID of 1/8 inch		31008	SMPO-1-H-B	

Ordering data – Mounting kit						
	For Ø [in]	Mounting		Part No.	Type	
	1-1/4 ... 4	On the cylinder barrel via clamping strap		151226	SMBS-2	

Ordering data – Plug sockets							
	Mounting	Switch output		Connection	Cable length [ft]	Part No.	Type
		PNP	NPN				
Straight socket							
	M8 union nut	■	■	3-pin	8.2	159420	SIM-M8-3GD-2.5-PU
					16.4	159421	SIM-M8-3GD-5-PU
Angled plug socket							
	M8 union nut	■	■	3-pin	8.2	159422	SIM-M8-3WD-2.5-PU
					16.4	159423	SIM-M8-3WD-5-PU