



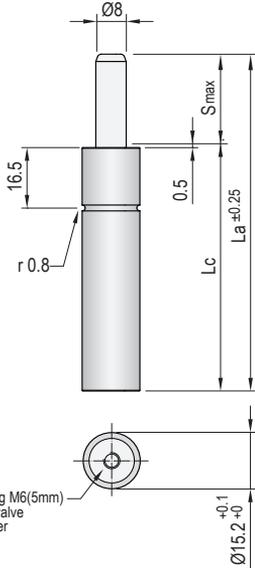
- ▶ Gas springs designed with sealing and guiding components for high temperature
- ▶ For applications where temperatures will exceed standard working temperatures

Gas springs for high temperature applications

Code	ØBody mm	Strokes mm	 Fa daN		 VDI SAFETY	 Up to 120°C
TPHT 15	15	7 - 75	40	✓	✓	✓
TPHT 25.1	25	7 - 80	140	✓	✓	✓
TPHT 32	32	10 - 80	200	✓	✓	✓
TPHT 38	38	10 - 80	300	✓	✓	✓
TPHT 45	45	13 - 80	400	✓	✓	✓
TPHT 50	50	13 - 80	500	✓	✓	✓

TPHT


VDI SAFETY



i Pressure medium **Nitrogen (N₂)**

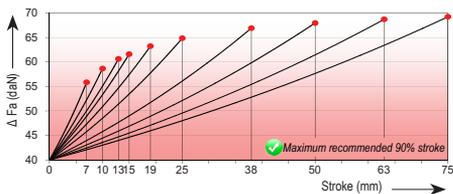
Max. charging pressure	80 Bar
Min. charging pressure	20 Bar
Rod seal area	0,50 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT15
Max. strokes / min	10-15 spm
Life service	300.000 + 500.000 strokes



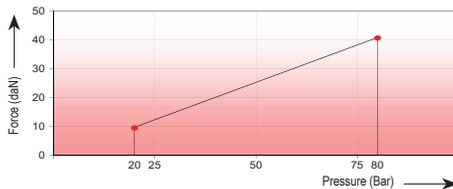
- MICRO
- TITAN
- TPH
- TPS
- TPSP
- TPF
- TPK
- TPC
- TPR
- TPB
- TPHC
- TPA
- TPG
- TPCT
- TPSL
- STOP CYLINDER
- STOP CYLINDER
- TPSR
- TPSRS
- TPNS
- TPHT

Code	Smax mm	La mm	Lc mm		Fa daN	90%	F daN	100%	Fc daN		P Bar	V l		Kg
TPHT 15x7	7	56	49	40 ±5% (20°C)	80 (20°C)	55	55	55	55		80 (20°C)	0,001	0,07	
TPHT 15x10	10	62	52			55	60	60	60			60	0,002	0,07
TPHT 15x13	13	68	55			60	60	60	60			60	0,002	0,08
TPHT 15x15	15	72	57			60	60	60	60			60	0,002	0,08
TPHT 15x19	19	80	61			60	65	65	65			65	0,003	0,09
TPHT 15x25	25	92	67			60	65	65	65			65	0,003	0,09
TPHT 15x38	38	118	80			65	65	65	65			65	0,005	0,10
TPHT 15x50	50	142	92			65	70	70	70			70	0,006	0,11
TPHT 15x63	63	172	109			65	70	70	70			70	0,008	0,12
TPHT 15x75	75	195	120			65	70	70	70			70	0,009	0,14

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



Follow guidelines
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DROP-IN

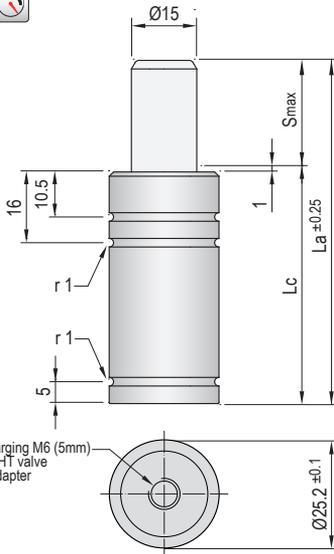


SCREWS



FS 15

VDI SAFETY

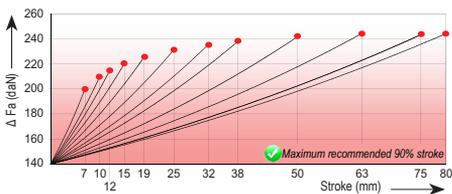


i Pressure medium	Nitrogen (N ₂)
Max. charging pressure	80 Bar
Min. charging pressure	30 Bar
Rod seal area	1,77 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT25.1
Max. strokes / min	10 - 20 spm
Life service	300.000 + 500.000 strokes

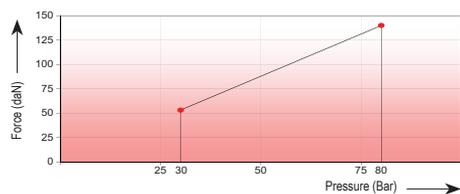


Code	Smax mm	La mm	Lc mm		Fa daN	90%	F daN	100%	Fc daN		P Bar	V		Kg
TPHT 25x7.1	7	44	37	140 ±5% (20°C)		195	200			80 (20°C)		0,004	0,11	
TPHT 25x10.1	10	50	40			200	210		0,005		0,13			
TPHT 25x12.1	12	54	42			205	215		0,006		0,14			
TPHT 25x15.1	15	60	45			210	225		0,007		0,15			
TPHT 25x19.1	19	68	49			215	230		0,009		0,16			
TPHT 25x25.1	25	80	55			220	235		0,011		0,17			
TPHT 25x32.1	32	94	62			225	240		0,014		0,17			
TPHT 25x38.1	38	106	68			225	240		0,016		0,19			
TPHT 25x50.1	50	130	80			225	245		0,021		0,22			
TPHT 25x63.1	63	156	93			230	245		0,026		0,25			
TPHT 25x75.1	75	185	110			230	245		0,031		0,26			
TPHT 25x80.1	80	195	115			230	245		0,033		0,27			

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



Follow guidelines
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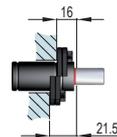
DROP-IN



SCREWS



FS 25/1



FS 25/1

TPHT





VDI SAFETY



MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP CYLINDER

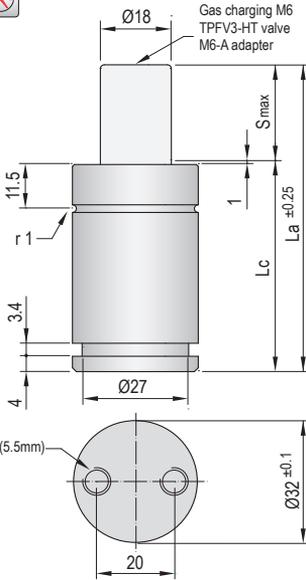
STOP CYLINDER

TPSR

TPSRS

TPNS

TPHT



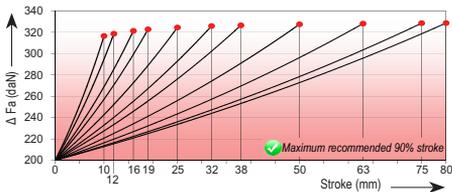
i Pressure medium **Nitrogen (N₂)**

Max. charging pressure	80 Bar
Min. charging pressure	25 Bar
Rod seal area	2,54 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT32
Max. strokes / min	10 - 20 spm
Life service	300.000 + 500.000 strokes

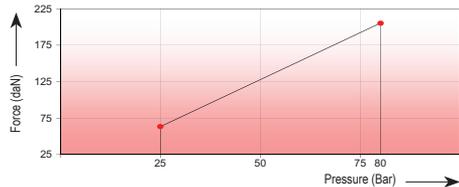


Code	Smax mm	La mm	Lc mm		Fa daN	90%	F daN	100%	Fc daN		P Bar	V l		Kg	
TPHT 32x10	10	50	40	200 ±5% (20°C)		305	320	305	325	80	(20°C)	0,007	0,16		
TPHT 32x12	12	54	42											0,008	0,17
TPHT 32x16	16	62	46											0,011	0,18
TPHT 32x19	19	68	49											0,013	0,19
TPHT 32x25	25	80	55											0,017	0,20
TPHT 32x32	32	94	62											0,021	0,22
TPHT 32x38	38	106	68											0,025	0,24
TPHT 32x50	50	130	80											0,033	0,28
TPHT 32x63	63	156	93											0,041	0,33
TPHT 32x75	75	180	105											0,049	0,36
TPHT 32x80	80	190	110											0,052	0,38

Force/stroke ratio



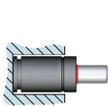
Initial force/charging pressure ratio



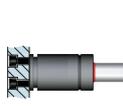
Assembly possibilities



Follow guidelines
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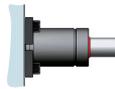
DROP-IN



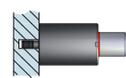
SCREWS



FS 32 · FS 32/1 · FSC 32

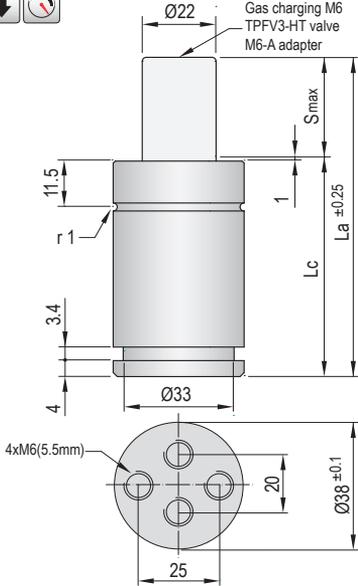


FP 32 · FPR 32



TPHT 32R

VDI SAFETY



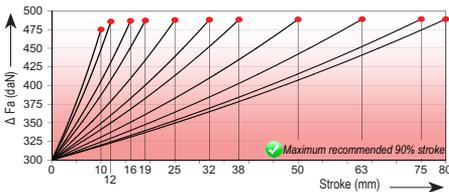
i Pressure medium **Nitrogen (N₂)**

Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	3,80 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT38
Max. strokes / min	10 - 20 spm
Life service	300.000 ÷ 500.000 strokes

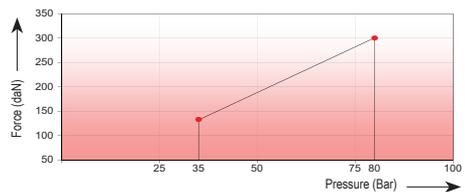


Code	Smax mm	La mm	Lc mm		Fa daN		F daN		Fc daN		P Bar		V l		Kg
TPHT 38x10	10	50	40	300 ±5% (20°C)	465		455		480		80 (20°C)		0,10		0,26
TPHT 38x12	12	54	42				465		495				0,12		0,27
TPHT 38x16	16	62	46				465		495				0,16		0,28
TPHT 38x19	19	68	49				465		495				0,19		0,30
TPHT 38x25	25	80	55				465		495				0,25		0,33
TPHT 38x32	32	94	62				465		495				0,32		0,35
TPHT 38x38	38	106	68				465		495				0,37		0,39
TPHT 38x50	50	130	80				465		495				0,49		0,43
TPHT 38x63	63	156	93				465		495				0,62		0,48
TPHT 38x75	75	180	105				465		495				0,74		0,51
TPHT 38x80	80	190	110	465	495	0,79	0,55								

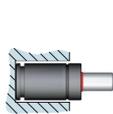
Force/stroke ratio



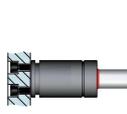
Initial force/charging pressure ratio



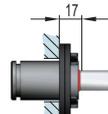
Assembly possibilities



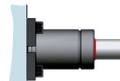
DROP-IN



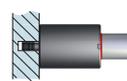
SCREWS



FS 38/1-FSC 38



FP 38-FPR 38



TPHT 38R

TPHT



VDI SAFETY



i

MICRO

TITAN

TPH

TPS

TPSP

TPF

TPK

TPC

TPR

TPB

TPHC

TPA

TPG

TPCT

TPSL

STOP CYLINDER

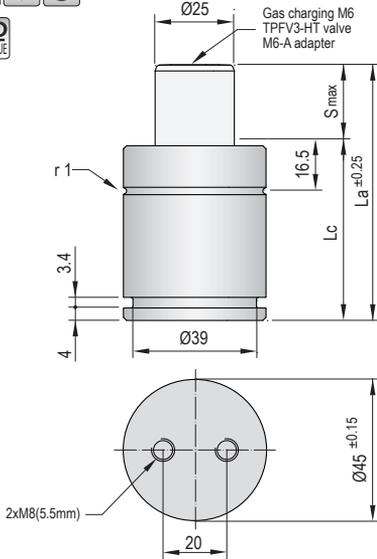
STOP CYLINDER

TPSR

TPSRS

TPNS

TPHT



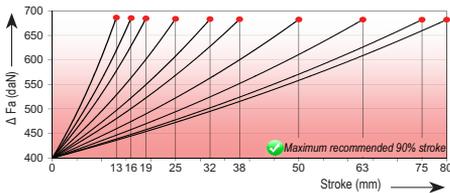
i Pressure medium **Nitrogen (N₂)**

Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	4,91 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT45
Max. strokes / min	10 - 25 spm
Life service	300.000 + 500.000 strokes

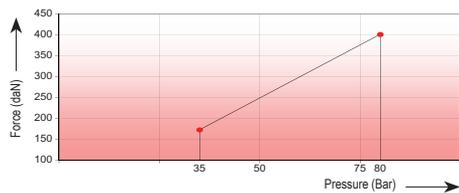


Code	Smax mm	La mm	Lc mm	Fa daN	90% F daN	100% Fc daN	P Bar	V l	Kg
TPHT 45x13	13	58	45	400 ±5% (20°C)	630	675	80 (20°C)	0,015	0,35
TPHT 45x16	16	64	48		630	675		0,019	0,39
TPHT 45x19	19	70	51		630	670		0,022	0,40
TPHT 45x25	25	82	57		625	670		0,030	0,44
TPHT 45x32	32	96	64		625	670		0,038	0,47
TPHT 45x38	38	108	70		625	670		0,045	0,50
TPHT 45x50	50	132	82		625	670		0,059	0,59
TPHT 45x63	63	158	95		625	670		0,075	0,65
TPHT 45x75	75	182	107		625	670		0,089	0,80
TPHT 45x80	80	192	112		625	670		0,095	0,85

Force/stroke ratio



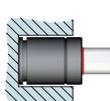
Initial force/charging pressure ratio



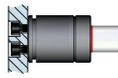
Assembly possibilities



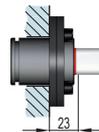
Follow guidelines
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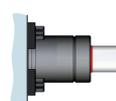
DROP-IN



SCREWS



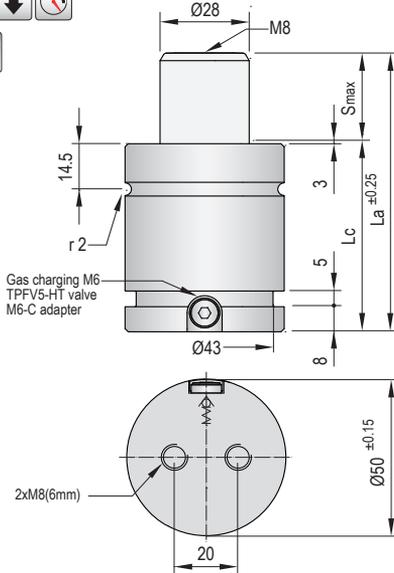
FS 45 - FSC 45



FP 45 - FPR 45



VDI SAFETY

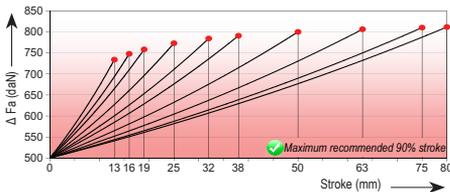


i Pressure medium	Nitrogen (N ₂)
Max. charging pressure	80 Bar
Min. charging pressure	35 Bar
Rod seal area	6,16 cm ²
Operating temperature	0°C - 120°C
Force increase by temperature	0,33 %/°C
Max. stem speed	0,5 m/s
Maintenance kit	Kit HT50.1
Max. strokes / min	10 - 25 spm
Life service	300.000 + 500.000 strokes

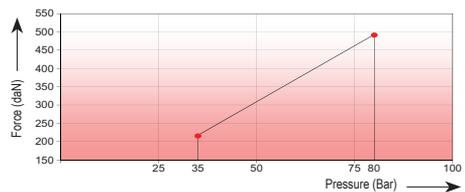


Code	S _{max} mm	L _a mm	L _c mm		F _a daN	90%	F daN	100%	F _c daN		P Bar	V		Kg
TPHT 50x13	13	64	51	500 ±5% (20°C)	500 ±5% (20°C)		690		725		80	0,025	0,53	
TPHT 50x16	16	70	54				700		735		0,030	0,55		
TPHT 50x19	19	76	57				710		745		0,034	0,58		
TPHT 50x25	25	88	63				720		760		0,044	0,62		
TPHT 50x32	32	102	70				730		775		0,054	0,67		
TPHT 50x38	38	114	76				735		780		0,064	0,72		
TPHT 50x50	50	138	88				745		790		0,082	0,82		
TPHT 50x63	63	164	101				750		795		0,102	0,93		
TPHT 50x75	75	188	113				750		800		0,121	1,10		
TPHT 50x80	80	198	118				755		800		0,128	1,15		

Force/stroke ratio



Initial force/charging pressure ratio



Assembly possibilities



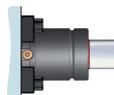
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DROP-IN



SCREWS



FP 50 · FPR 50



FS 50 · FSC 50

TPHT

