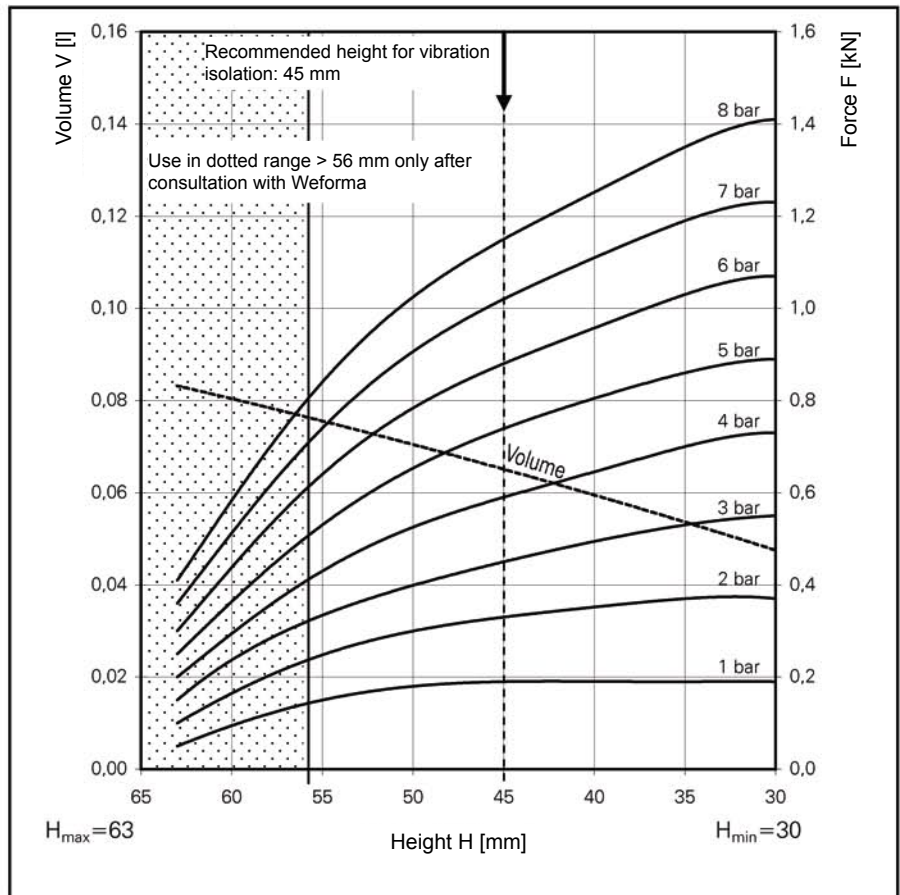
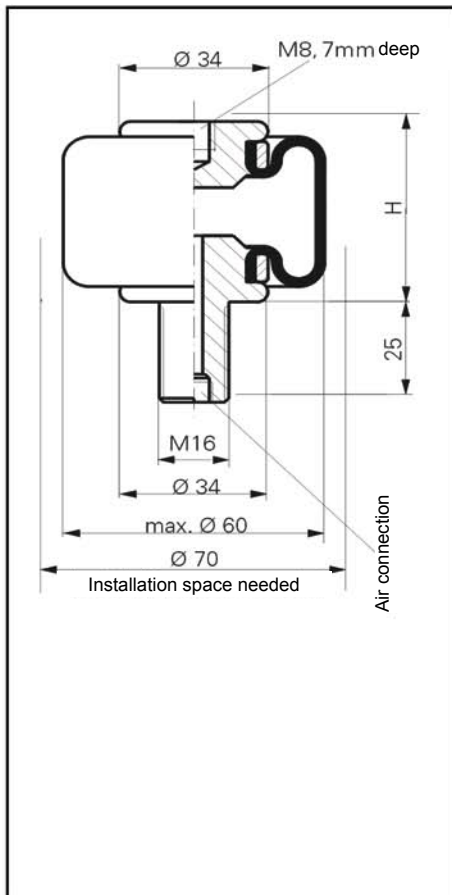


WSR 20



Force-height diagramm

Air connection

WSR 20

G1/8

Technical data

Min. pressure	0 bar
Return force to min. height	≤ 22 N
Overall weight with clamped plates	0.07 kg

Vibration isolation - dynamic characteristic values

Design height recommended 45mm, minimum 30mm

Pressure p [bar]	3	4	5	6	7	8	Vol V [l]
Force (Load) [kN]	0.45	0.59	0.72	0.88	1.02	1.15	0.07
Spring rate c [N/cm]	210	260	310	360	410	460	
Natural frequenz f ₀ [Hz]	3.4	3.3	3.3	3.2	3.2	3.2	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol.(l)
Height H [mm]	55	0.33	0.43	0.53	0.64	0.74	0.84	0.08
	45	0.45	0.59	0.74	0.88	1.02	1.15	0.07
	35	0.53	0.70	0.86	1.03	1.19	1.35	0.05



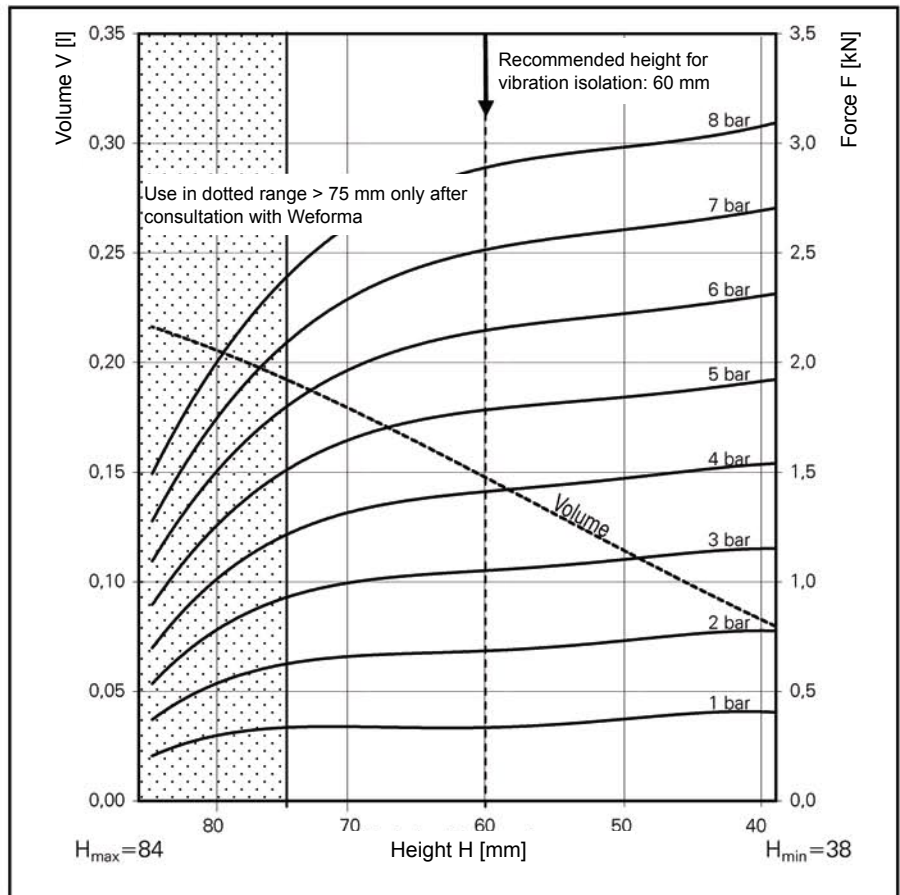
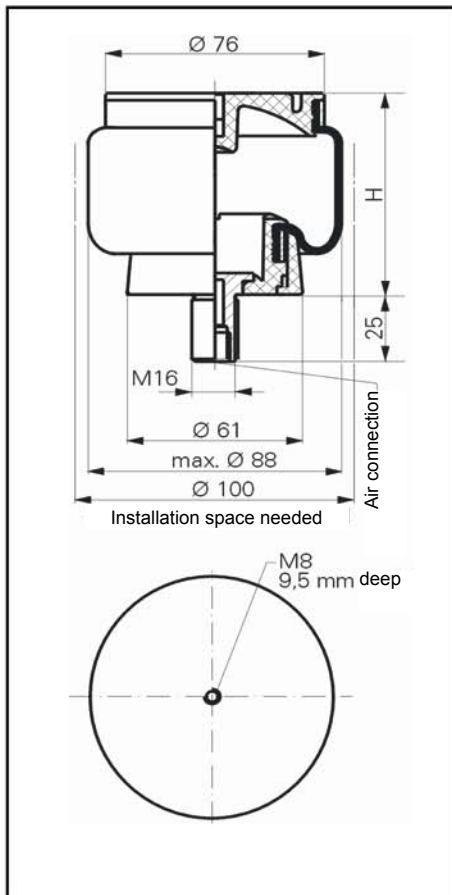
Service instructions

M8 = 3-5 Nm

M16 = 11-14 Nm

G 1/8 = Handtight plus
one turn

WSR 30



Force-height diagramm

Air connection

WSR 30

G1/8

Technical data

Min. pressure	0 bar
Return force to min. height	≤ 150 N
Overall weight with clamped plates	0.28 kg

Vibration isolation - dynamic characteristic values

Design height recommended 60mm

Pressure p [bar]	3	4	5	6	7	8	Vol. V [l]
Force (Load) [kN]	1.2	1.5	1.9	2.3	2.7	3.1	0.15
Spring rate c [N/cm]	325	410	500	590	670	750	
Natural frequenz f0 [Hz]	2.7	2.7	2.7	2.6	2.6	2.6	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol.[l]
Height H [mm]	70	1.0	1.3	1.7	2.0	2.3	2.6	0.18
	60	1.0	1.4	1.8	2.1	2.5	2.9	0.15
	50	1.1	1.5	1.8	2.2	2.6	3.0	0.12
	40	1.2	1.5	1.9	2.3	2.7	3.1	0.09



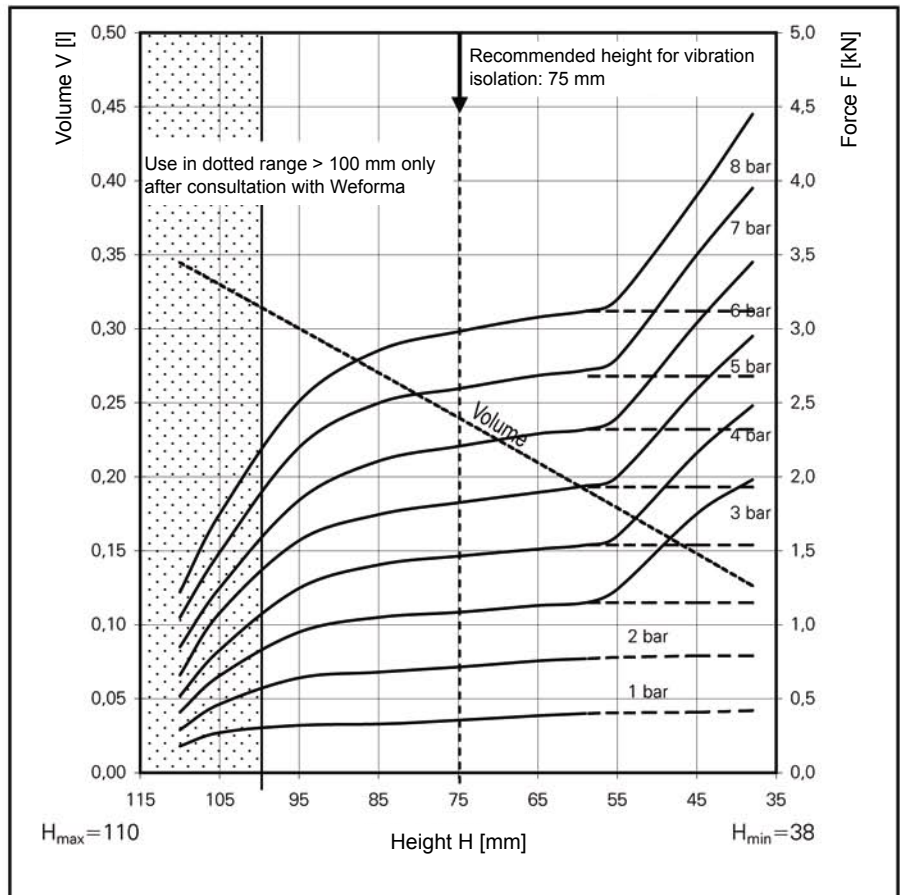
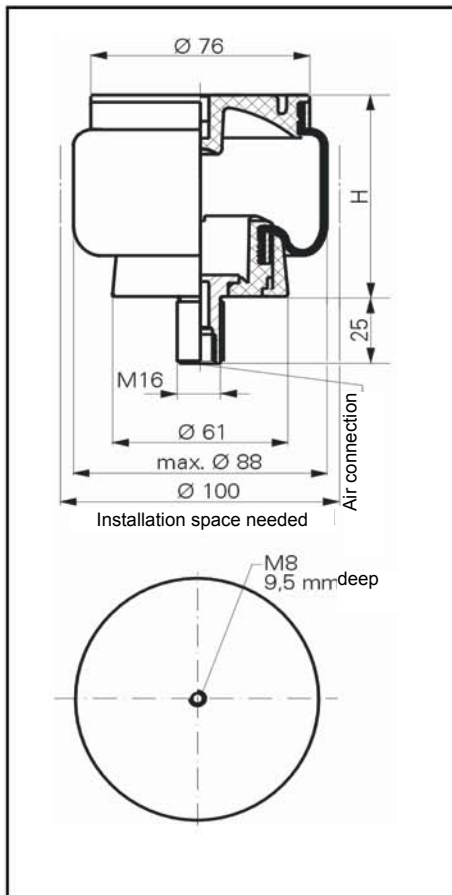
Service instructions

M8 = 5 Nm

M16 = 11-14 Nm

G 1/8 = Handtight plus one turn

WSR 40



Air connection

WSR 40

G1/8

Technical data

Min. pressure	0 bar
Return force to min. height	≤ 150 N
Overall weight with clamped plates	0.3 kg

Vibration isolation - dynamic characteristic values

Design height recommended 75mm, lateral guidance necessary

Pressure p [bar]	3	4	5	6	7	8	Vol V [l]
Force (Load) [kN]	1.1	1.5	1.8	2.2	2.6	3.0	0.24
Spring rate c [N/cm]	302	374	432	497	552	615	
Natural frequenz f0 [Hz]	2.6	2.6	2.5	2.4	2.4	2.3	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol.(l)
Height H [mm]	95	0.95	1.25	1.57	1.84	2.20	2.51	0.30
	85	1.05	1.40	1.75	2.11	2.50	2.85	0.27
	75	1.09	1.46	1.83	2.21	2.60	2.98	0.24
	65	1.13	1.51	1.90	2.29	2.68	3.08	0.21



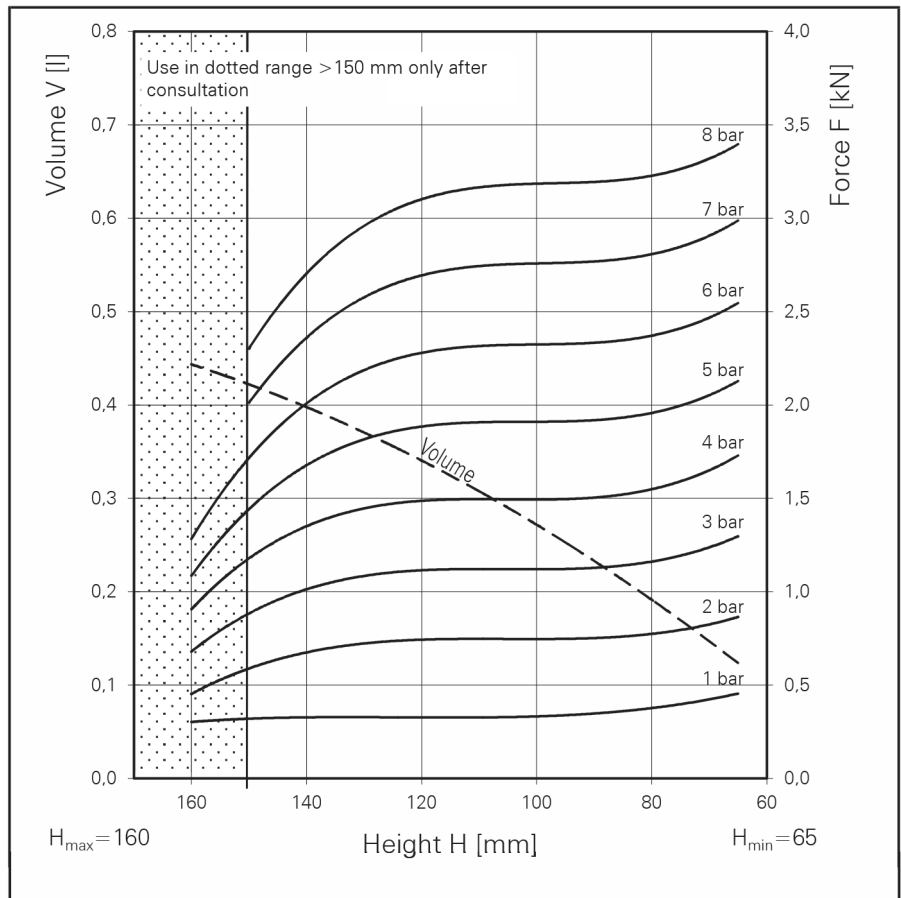
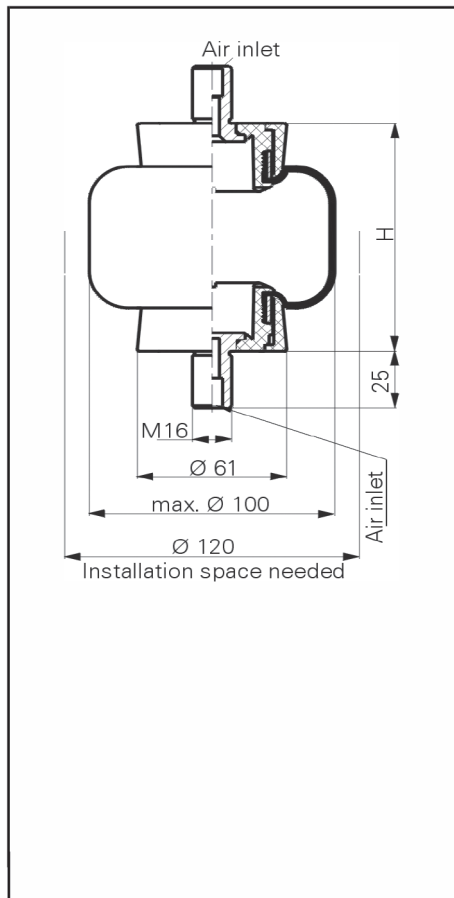
Service instructions

M8 = 5 Nm

M16 = 11-14 Nm

G 1/8 = Handtight plus one turn

WSR 50



Force-height diagram

Technical data

Min. pressure	0.9 bar
Return force to min. height	≤ 440 N
Overall weight	0.35 kg

Pneumatic application - static characteristic values

Force F [kN]

Pressure p [bar]	3	4	5	6	7	8	Vol.[l]
Height H [mm]							
150	0.9	1.2	1.5	1.7	2.0	2.3	0.43
130	1.1	1.5	1.8	2.2	2.6	3.0	0.37
110	1.1	1.5	1.9	2.3	2.7	3.2	0.31
90	1.1	1.5	1.9	2.4	2.8	3.2	0.23
70	1.2	1.6	2.0	2.4	2.9	3.3	0.15



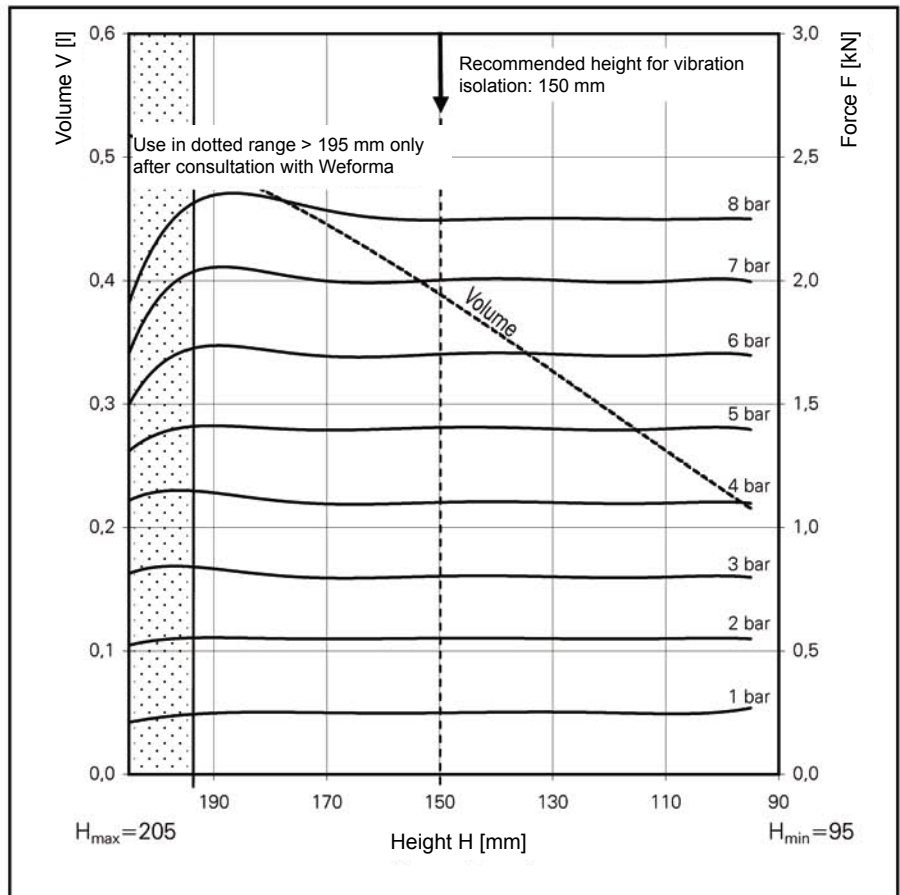
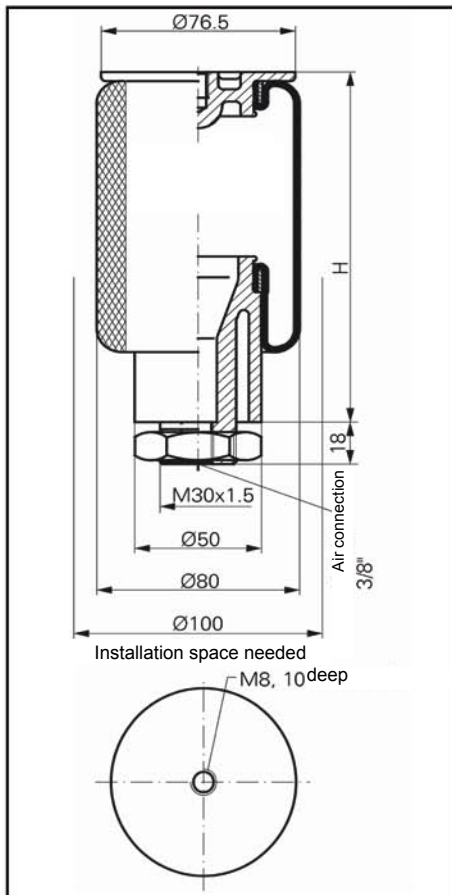
Service instructions

M16 = 11-14 Nm

G 1/8 = Handtight plus
one turn

Measuring procedure: Room temperature / Force- height- data quasistatic / Dynamic data at 1 Hz

WSR 100



Force-height diagramm

Air connection

WSR 100

G3/8

Technical data

Min. pressure	0,9 [bar]
Return force to min. height	≤ 350 [N]
Overall weight with clamped plates	0.4 [kg]

Vibration isolation - dynamic characteristic values

Design height recommended 150mm, lateral guidance necessary

Pressure p	[bar]	3	4	5	6	7	8	Vol V [l]
Force (Load)	[kN]	0.8	1.1	1.4	1.7	1.95	2.25	0.38
Spring rate c	[N/cm]	165	200	235	270	305	340	
Natural frequenz f0	[Hz]	2.3	2.1	2.1	2.0	2.0	2.0	

Pneumatic application - static characteristic values

Force F [kN]

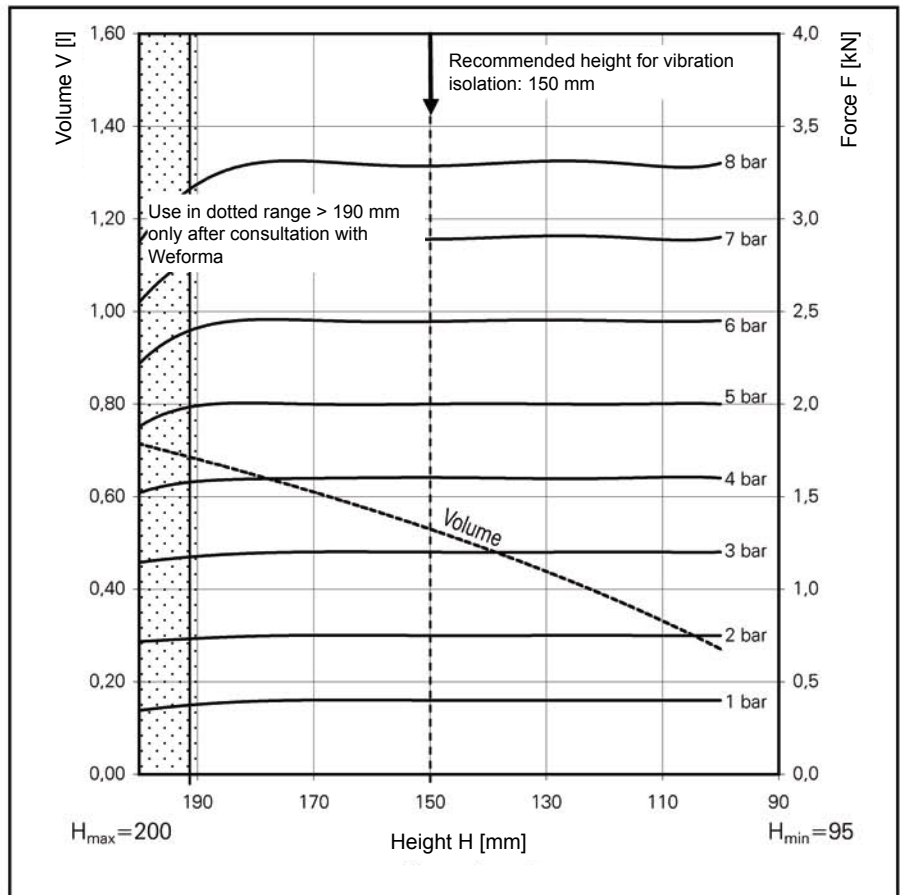
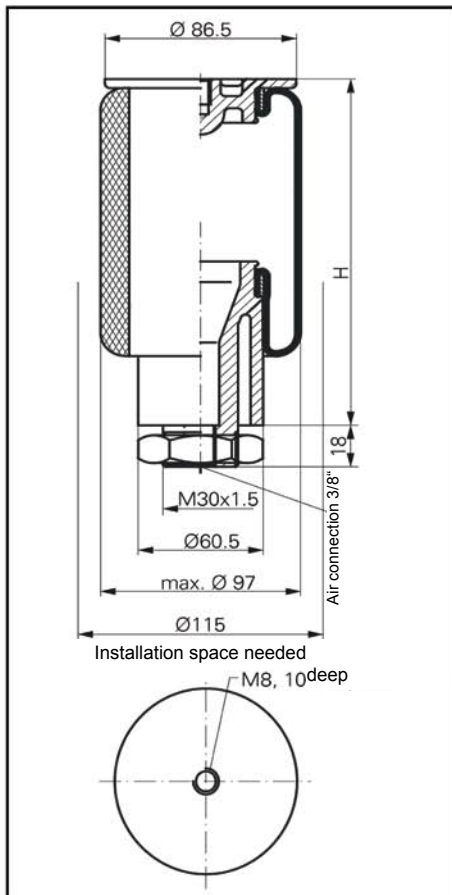
Pressure p	[bar]	3	4	5	6	7	8	Vol V [l]
Height H [mm]	190	0.8	1.2	1.4	1.8	2.1	2.4	0.5
	160	0.8	1.1	1.4	1.7	2.0	2.3	0.4
	130	0.8	1.1	1.4	1.7	2.0	2.3	0.3
	100	0.8	1.1	1.4	1.7	2.0	2.3	0.2



Service instructions

- M8 = 5 Nm
- M30x1.5 = 40 Nm
- G 3/8 = 10 Nm

WSR 200



Force-height diagramm

Air connection

WSR 200

G3/8

Technical data

Min. pressure	0,9 bar
Return force to min. height	≤ 450 N
Overall weight with clamped plates	0.5 kg

Vibration isolation - dynamic characteristic values

Design height recommended 150mm, lateral guidance necessary

Pressure p	[bar]	3	4	5	6	7	8	Vol. V[l]
Force (Load)	[kN]	1.20	1.60	2.00	2.50	2.90	3.30	0.51
Spring rate c	[N/cm]	185	240	295	350	405	460	
Natural frequenz f0	[Hz]	2.0	1.9	1.9	1.9	1.9	1.9	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol.[l]
Height H [mm]	190	1.2	1.6	2.0	2.4	2.8	3.2	0.7
	160	1.2	1.6	2.0	2.5	2.9	3.3	0.6
	130	1.2	1.6	2.0	2.5	2.9	3.3	0.4
	100	1.2	1.6	2.0	2.5	2.9	3.3	0.3



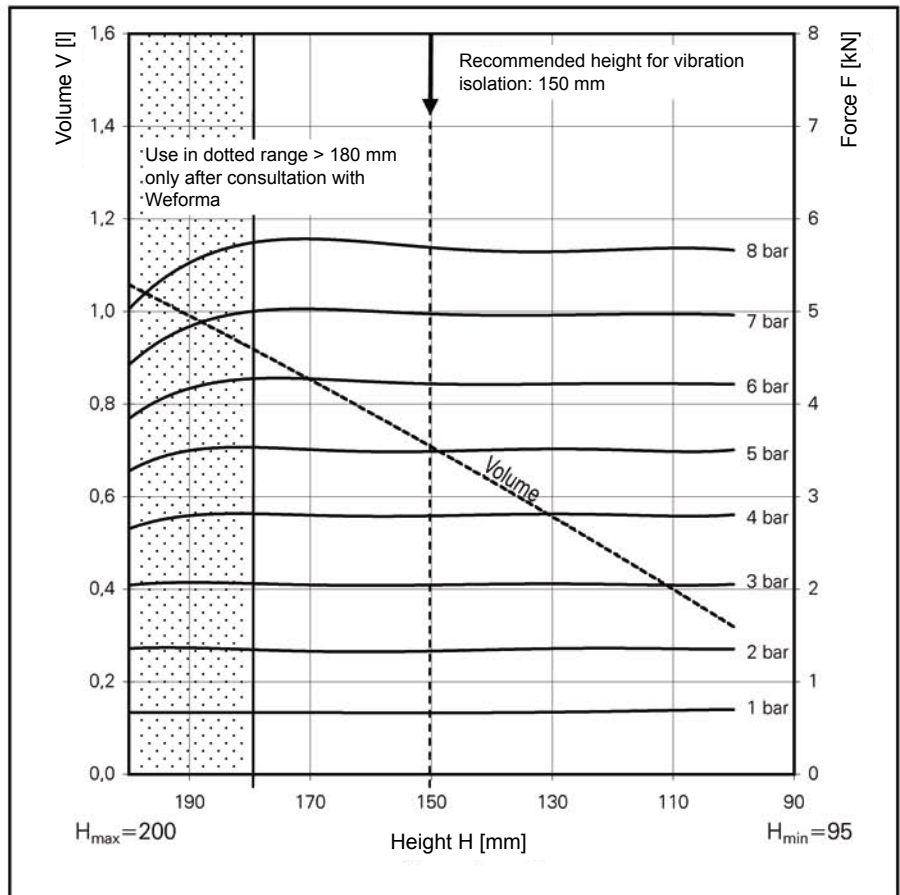
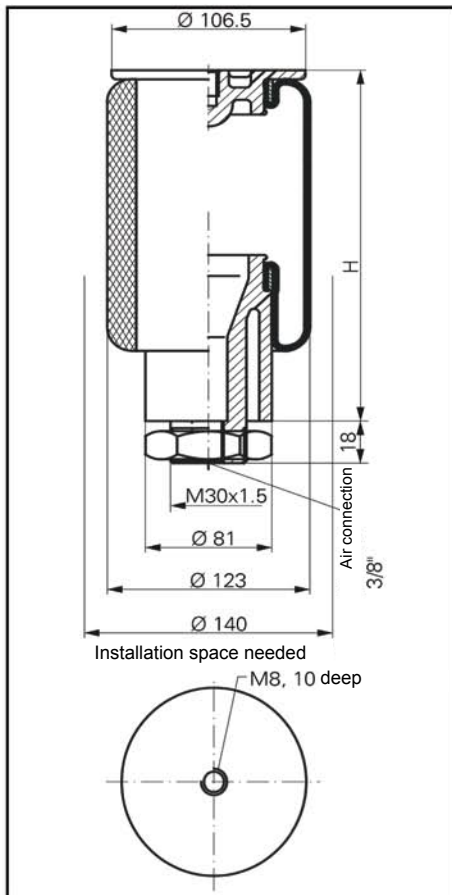
Service instructions

M8 = 5 Nm

M30x1.5 = 40 Nm

G 3/8 = 10 Nm

WSR 300



Force-height diagramm

Air connection

WSR 300

G3/8

Technical data

Min. pressure	0,9 bar
Return force to min. height	≤ 700 N
Overall weight with clamped plates	0.65 kg

Vibration isolation - dynamic characteristic values

Design height recommended 150mm, lateral guidance necessary

Pressure p	[bar]	3	4	5	6	7	8	Vol. V[l]
Force (Load)	[kN]	2.00	2.75	3.45	4.20	4.90	5.65	0.70
Spring rate c	[N/cm]	335	435	530	625	720	815	
Natural frequenz f0	[Hz]	2.1	2.0	2.0	1.9	1.9	1.9	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol. [l]
Height H [mm]	180	2.1	2.8	3.5	4.3	5.1	5.8	0.93
	160	2.1	2.8	3.5	4.2	5.0	5.7	0.78
	140	2.1	2.8	3.5	4.2	5.0	5.7	0.64
	120	2.1	2.8	3.5	4.2	5.0	5.7	0.48
	100	2.1	2.8	3.5	4.2	5.0	5.7	0.33



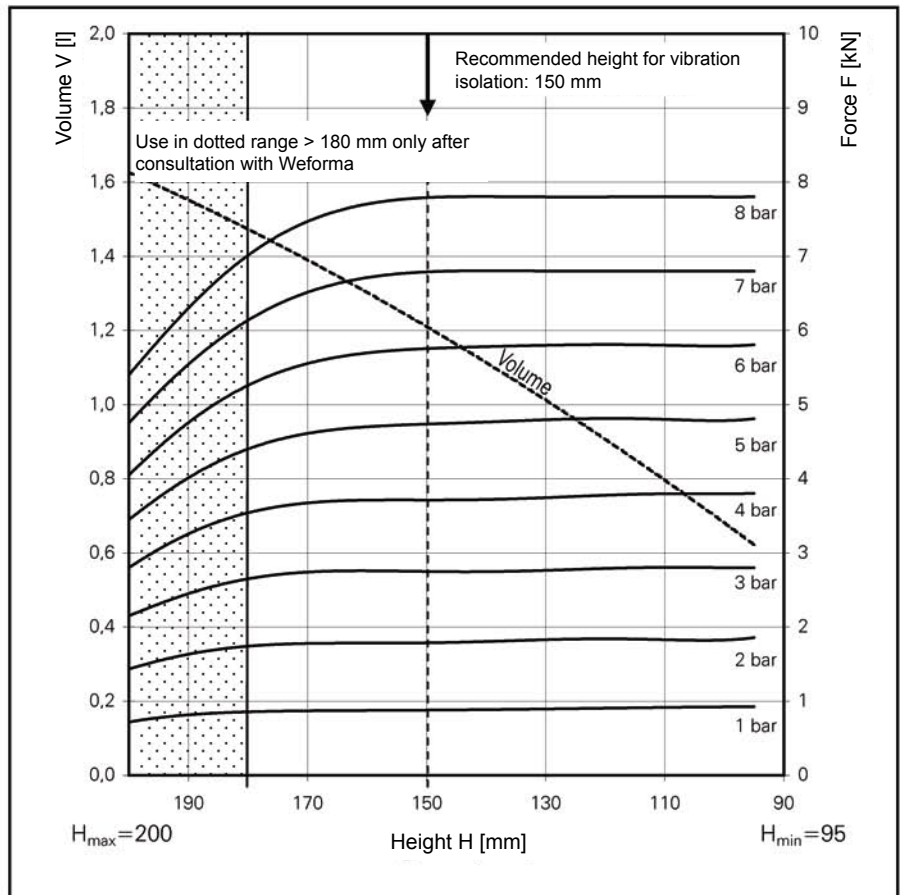
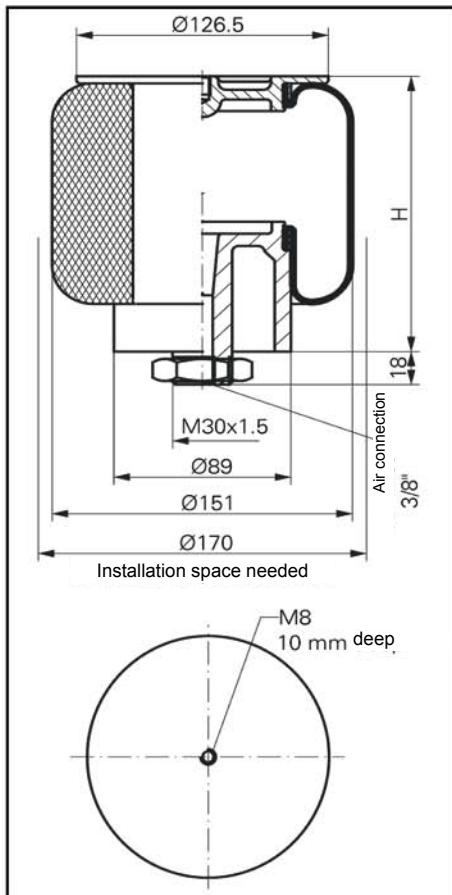
Service instructions

M8 = 5 Nm

M30x1.5 = 40 Nm

G 3/8 = 10 Nm

WSR 400



Force-height diagramm

Air connection

WSR 400

G3/8

Technical data

Min. pressure	0,9 [bar]
Return force to min. height	≤ 900 [N]
Overall weight with clamped plates	0.7 [kg]

Vibration isolation - dynamic characteristic values

Design height recommended 150mm, lateral guidance necessary

Pressure p	[bar]	3	4	5	6	7	8	Vol V [l]
Force (Load)	[kN]	2.75	3.70	4.70	5.70	6.80	7.80	1.21
Spring rate c	[N/cm]	435	545	655	765	875	985	
Natural frequenz f ₀	[Hz]	2.0	1.9	1.9	1.8	1.8	1.8	

Pneumatic application - static characteristic values

Force F [kN]

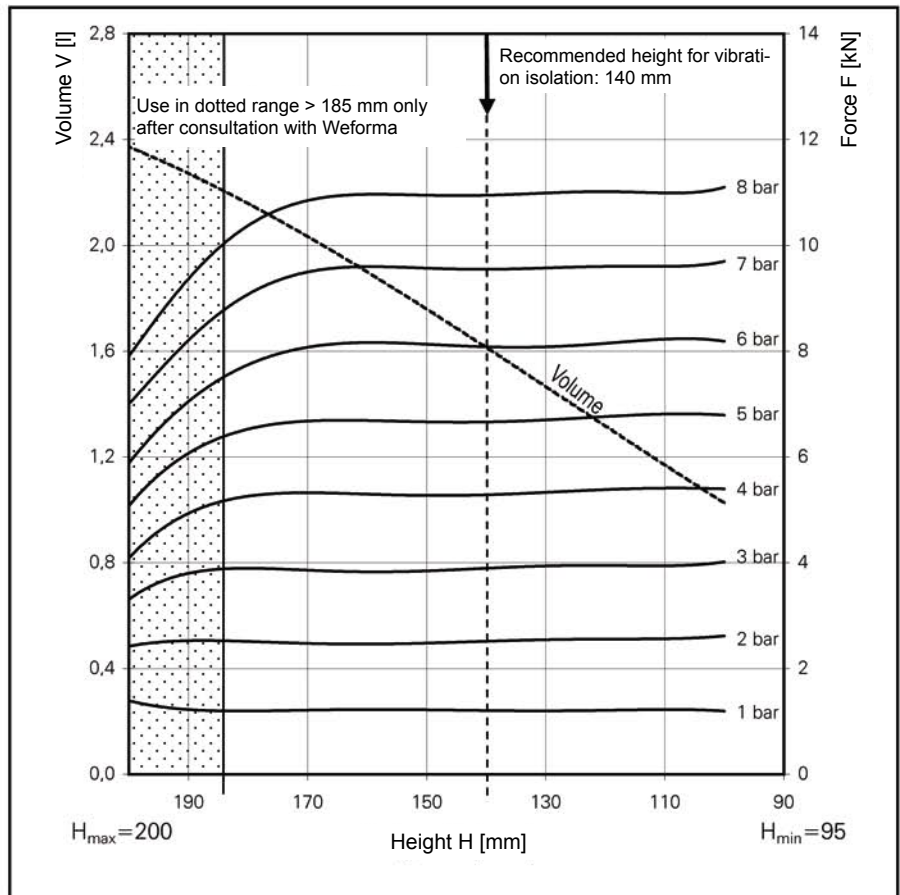
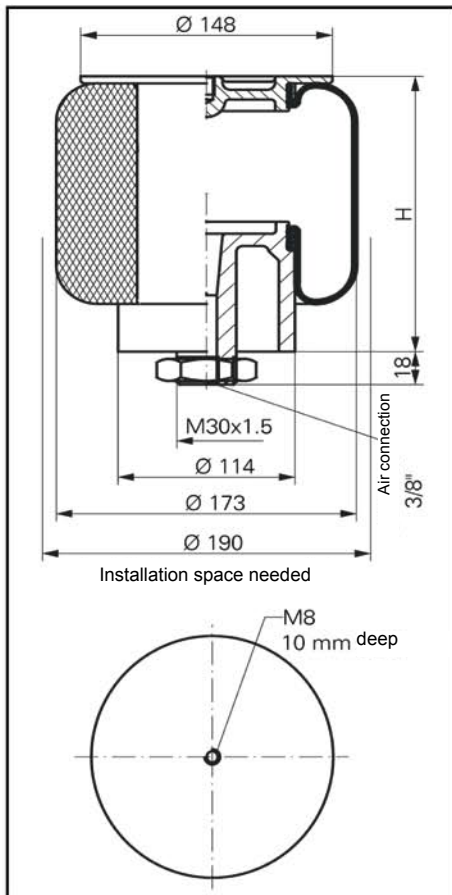
Pressure p	[bar]	3	4	5	6	7	8	Vol. [l]
Height H [mm]	175	2.7	3.6	4.6	5.5	6.4	7.3	1.5
	160	2.8	3.7	4.7	5.7	6.7	7.7	1.3
	145	2.8	3.7	4.8	5.8	6.8	7.8	1.2
	130	2.8	3.8	4.8	5.8	6.8	7.8	1.0
	115	2.8	3.8	4.8	5.8	6.8	7.8	0.9
	100	2.8	3.8	4.8	5.8	6.8	7.8	0.7



Service instructions

M8 = 5 Nm
M30x1.5 = 40 Nm
G 3/8 = 10 Nm

WSR 500



Force-height diagramm

Air connection

WSR 500

G3/8

Technical data

Min. pressure	0,9 bar
Return force to min. height	≤ 1300 N
Overall weight with clamped plates	1.0 kg

Vibration isolation - dynamic characteristic values

Design height recommended 140mm, lateral guidance necessary

Pressure p [bar]	3	4	5	6	7	8	Vol. V[l]
Force (Load) [kN]	3.9	5.3	6.7	8.1	9.6	10.9	1.61
Spring rate c [N/cm]	810	1020	1240	1460	1690	1920	
Natural frequenz f0 [Hz]	2.3	2.2	2.2	2.1	2.1	2.1	

Pneumatic application - static characteristic values

Force F [kN]

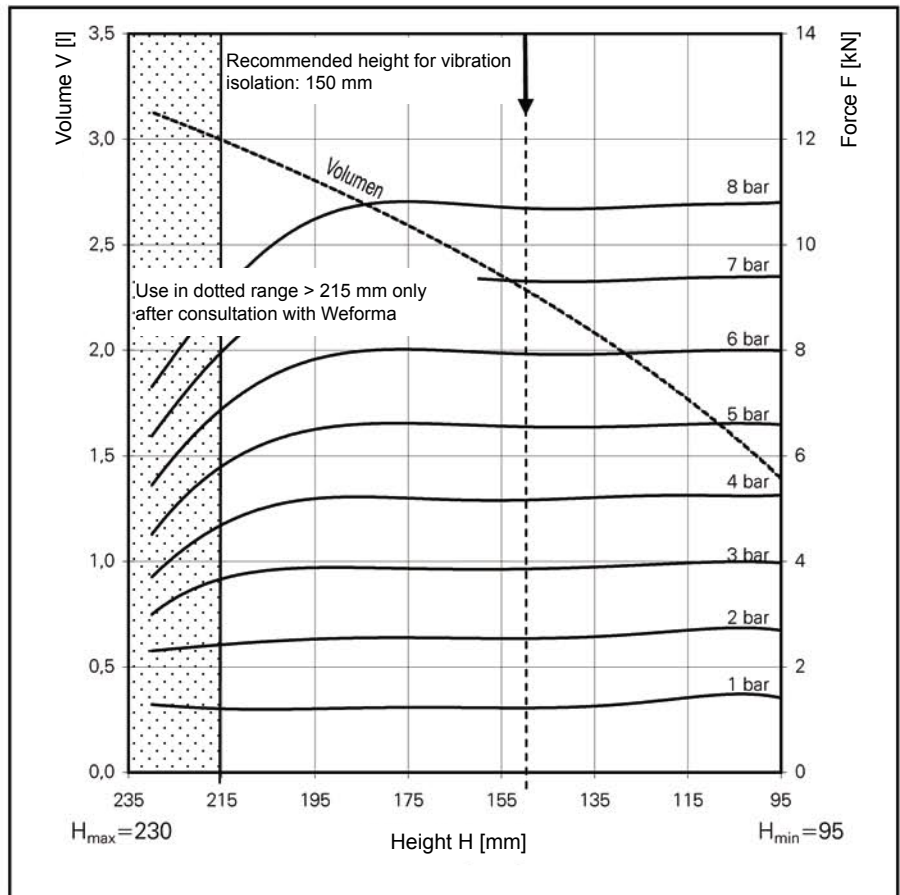
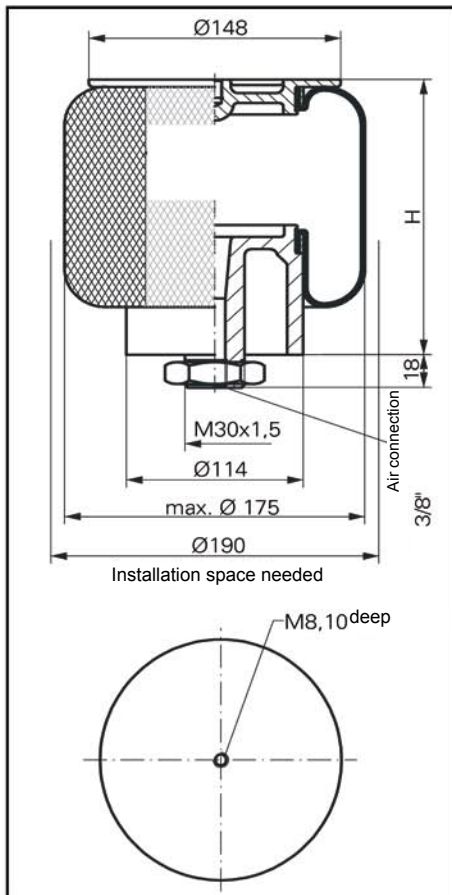
Pressure p [bar]	3	4	5	6	7	8	Vol. V[l]
Height H [mm]	175	160	145	130	115	100	
	3.9	5.4	6.7	8.1	9.6	11.1	2.10
	3.8	5.2	6.6	8.1	9.6	11.0	1.90
	3.9	5.3	6.7	8.1	9.6	11.0	1.68
	3.9	5.3	6.7	8.1	9.6	11.0	1.46
	4.0	5.4	6.8	8.2	9.6	11.0	1.25
	4.0	5.4	6.8	8.2	9.7	11.1	1.02



Service instructions

M8 = 5 Nm
M30x1.5 = 40 Nm
G 3/8 = 10 Nm

WSR 520



Force-height diagramm

Air connection

WSR 520

G3/8

Technical data

Min. pressure	0,9 bar
Return force to min. height	≤ 1000 N
Overall weight with clamped plates	1,1 kg

Vibration isolation - dynamic characteristic values

Design height empf. 150mm, Führung in Querrichtung erforderlich

Pressure p [bar]	3	4	5	6	7	8	Vol. V[l]
Force (Load) [kN]	3,9	5,2	6,6	7,9	9,3	10,7	2,26
Spring rate c [N/cm]	690	840	1000	1150	1300	1455	
Natural frequenz f0 [Hz]	2,1	2,0	1,9	1,9	1,9	1,8	

Pneumatic application - static characteristic values

Force F [kN]

Pressure p	[bar]	3	4	5	6	7	8	Vol.[l]
Height H [mm]	210	3,8	4,9	6,1	7,2	8,4	9,5	2,95
	190	3,9	5,3	6,6	8,0	9,3	10,7	2,79
	170	3,8	5,2	6,6	8,0	9,4	10,8	2,54
	150	3,9	5,2	6,6	7,9	9,3	10,7	2,26
	130	3,9	5,2	6,6	7,9	9,3	10,7	1,96
	110	4,0	5,3	6,6	8,0	9,4	10,8	1,67