



GAS SPRINGS



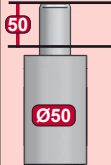
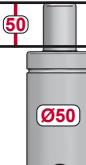
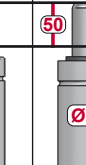
AZOL 
GAS



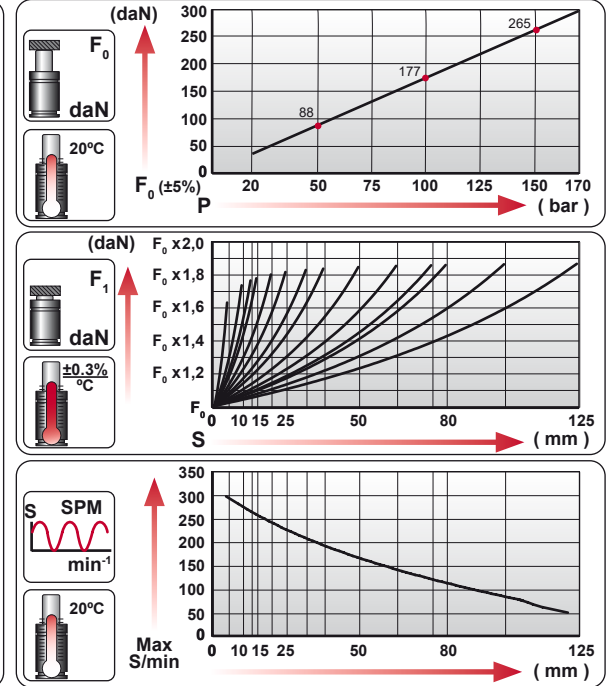
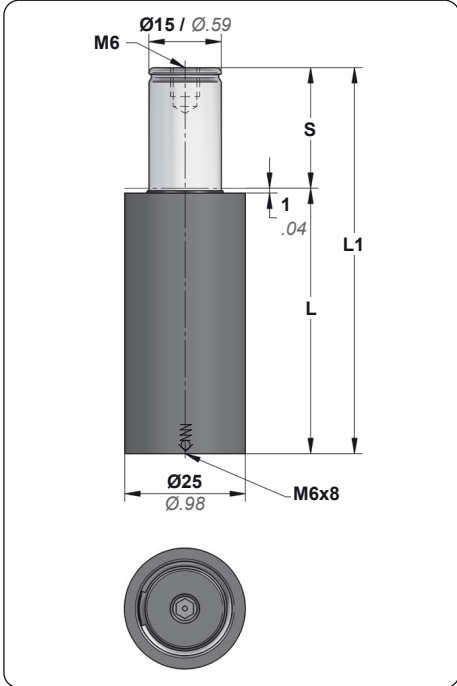
HIGH FREQUENCY HF

- The shortest height size gas springs
- Most powerful per diameter
- Medium range contact force (300-5000 daN)
- Ideal for high frequency applications

[illegible]

 s mm	 2 mm	 L1 mm	 50 Ø50 L1=135	 50 Ø50 L1=138 L1=148 L1=152	 50 Ø50 L1=138 L1=150 L1=150	 50 Ø50 L1=170 L1=185 L1=195	 50 Ø50 L1=195	 50 Ø50 L1=165 L1=175	 50 Ø50 L1=220
MODEL	X	HF 1500	CW 1000 CWC 1000 KZ/KT 1000	CT 1000 CK 1000 FD 750	GN 750 CM 1000 CD 1000	AG 750	CPH 1700 CP 2000	CS 1800	
SERIES	MINI	HIGH FREQUENCY FORCE	COMPACT HEIGHT	LOW PROFILE	HEAVY DUTY	ISO	HEAVY LOAD	POWER SHORT STROKE	
		 >F₀ <L1	 ISO <L1	 ISO <L1	 ISO >F₀	 ISO	 >P_{max}	 <S >F₀	

HF 300
High Frequency-Force



VDI SAFETY

STANDARS

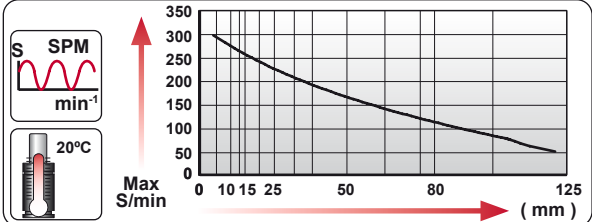
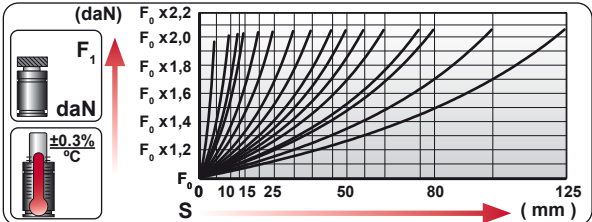
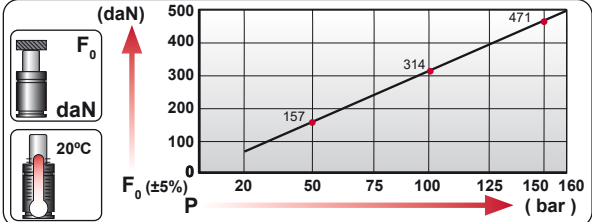
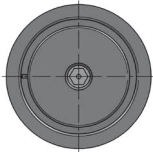
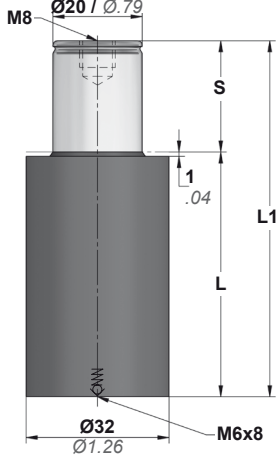
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 300 005	5	0.20	40	1.57	35	1.38	300 674 ±5% 170 bar 2466 psi at 20°C 68°F		528	1187	2	0.1	0.11	0.24
HF 300 010	10	0.39	50	1.97	40	1.57			543	1221	4	0.2	0.12	0.26
HF 300 013	13	0.51	56	2.20	43	1.69			547	1230	5	0.3	0.12	0.26
HF 300 015	15	0.59	60	2.36	45	1.77			549	1233	6	0.4	0.13	0.29
HF 300 020	20	0.79	70	2.76	50	1.97			552	1240	8	0.5	0.14	0.31
HF 300 025	25	0.98	80	3.15	55	2.17			553	1244	10	0.6	0.15	0.33
HF 300 032	32	1.26	94	3.70	62	2.44			555	1247	12	0.8	0.17	0.37
HF 300 038	38	1.50	106	4.17	68	2.68			556	1249	15	0.9	0.18	0.40
HF 300 050	50	1.97	130	5.12	80	3.15			557	1252	19	1.2	0.21	0.46
HF 300 063	63	2.48	156	6.14	93	3.66			557	1253	24	1.5	0.24	0.53
HF 300 075	75	2.95	180	7.09	105	4.13			558	1254	29	1.7	0.26	0.57
HF 300 080	80	3.15	190	7.48	110	4.33			558	1255	31	1.9	0.28	0.62
HF 300 100	100	3.94	230	9.06	130	5.12			559	1256	38	2.3	0.32	0.71
HF 300 125	125	4.92	280	11.02	155	6.10			559	1256	48	2.9	0.38	0.84

TECHNICAL DATA													
	Fluid	N ₂		Pmin	Pmax	20 bar	170 bar		Tmin	Tmax		Charging Adapter	06 CG 2-Q
	Sm	< 90%		20°C	68°F	290 psi	2466 psi		0 °C	80 °C		Connection	X
	Vmax	0,5 m/s		32 °F	176 °F				Force variation by temperature	±0,3% / °C		Seal Kit	S-XXXXXXX

AZOL
GAS

HF 500

High Frequency-Force

VDI
SAFETY

STANDARS



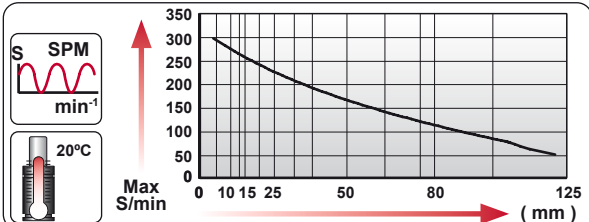
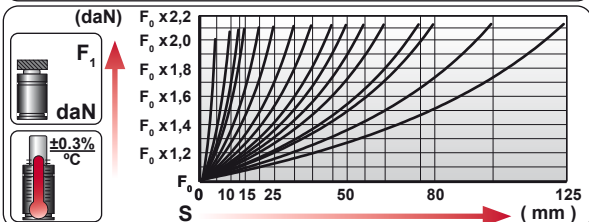
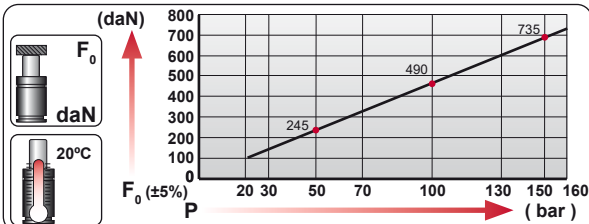
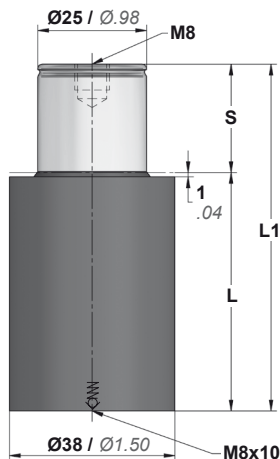
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 500 005	5	0.20	40	1.57	35	1.38	500	1124	1016	2285	3	0.2	0.18	0.40
HF 500 010	10	0.39	50	1.97	40	1.57			1024	2302	6	0.4	0.20	0.44
HF 500 013	13	0.51	56	2.20	43	1.69			1026	2306	8	0.5	0.21	0.46
HF 500 015	15	0.59	60	2.36	45	1.77			1027	2308	9	0.6	0.22	0.49
HF 500 020	20	0.79	70	2.76	50	1.97			1028	2311	12	0.7	0.24	0.53
HF 500 025	25	0.98	80	3.15	55	2.17			1029	2313	15	0.9	0.26	0.57
HF 500 032	32	1.26	94	3.70	62	2.44			1029	2314	20	1.2	0.29	0.64
HF 500 038	38	1.50	106	4.17	68	2.68			1030	2315	23	1.4	0.31	0.68
HF 500 050	50	1.97	130	5.12	80	3.15			1030	2316	31	1.9	0.36	0.79
HF 500 063	63	2.48	156	6.14	93	3.66			1031	2317	38	2.3	0.41	0.90
HF 500 075	75	2.95	180	7.09	105	4.13	160 bar 2321 psi at 20°C 68°F		1031	2317	46	2.8	0.46	1.01
HF 500 080	80	3.15	190	7.48	110	4.33			1031	2318	49	3.0	0.48	1.06
HF 500 100	100	3.94	230	9.06	130	5.12			1031	2318	61	3.7	0.56	1.23
HF 500 125	125	4.92	280	11.02	155	6.10			1031	2318	76	4.7	0.66	1.46

TECHNICAL DATA

	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	160 bar 2321 psi		Charging Adapter	06 CG 2-Q
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	X
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX

HF 750

High Frequency-Force

**AZOL
GAS****VDI
SAFETY****STANDARS**

ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 750 005	5	0.20	40	1.57	35	1.38	785	1765	1619	3640	5	0.3	0.25	0.55
HF 750 010	10	0.39	50	1.97	40	1.57			1614	3629	10	0.6	0.28	0.62
HF 750 013	13	0.51	56	2.20	43	1.69			1613	3627	12	0.8	0.30	0.66
HF 750 015	15	0.59	60	2.36	45	1.77			1613	3625	14	0.9	0.31	0.68
HF 750 020	20	0.79	70	2.76	50	1.97			1612	3624	19	1.2	0.33	0.73
HF 750 025	25	0.98	80	3.15	55	2.17			1611	3623	24	1.5	0.36	0.79
HF 750 032	32	1.26	94	3.70	62	2.44			1611	3622	31	1.9	0.40	0.88
HF 750 038	38	1.50	106	4.17	68	2.68			1611	3621	36	2.2	0.43	0.95
HF 750 050	50	1.97	130	5.12	80	3.15			1611	3621	48	2.9	0.49	1.08
HF 750 063	63	2.48	156	6.14	93	3.66			1610	3620	60	3.7	0.56	1.23
HF 750 075	75	2.95	180	7.09	105	4.13	160 bar 2321 psi at 20°C 68°F		1610	3620	72	4.4	0.62	1.37
HF 750 080	80	3.15	190	7.48	110	4.33			1610	3620	77	4.7	0.65	1.43
HF 750 100	100	3.94	230	9.06	130	5.12			1610	3620	96	5.8	0.75	1.65
HF 750 125	125	4.92	280	11.02	155	6.10			1610	3619	120	7.3	0.88	1.94

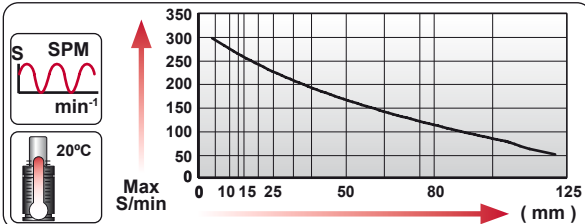
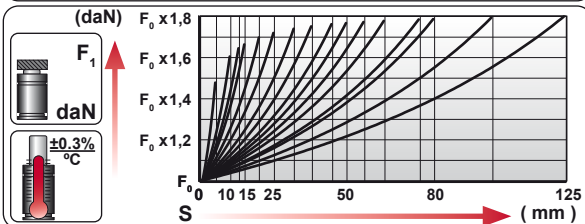
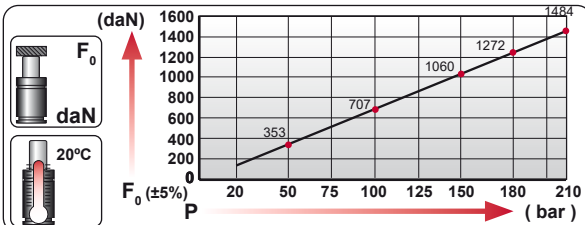
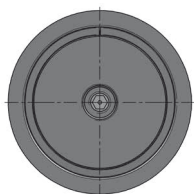
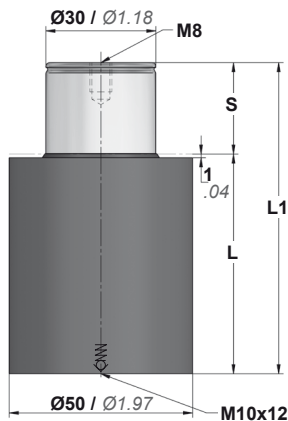
TECHNICAL DATA

	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 160 bar 290 psi 2321 psi		Tmin Tmax 0 °C 80 °C 32 °F 176 °F		Charging Adapter	08 GA 2
	Smax	< 90%		Force variation by temperature	±0,3% / °C		Seal Kit		Connection	X
	Vmax	0,5 m/s								S-XXXXXXX

AZOL
GAS

HF 1500

High Frequency-Force

VDI
SAFETY

STANDARS



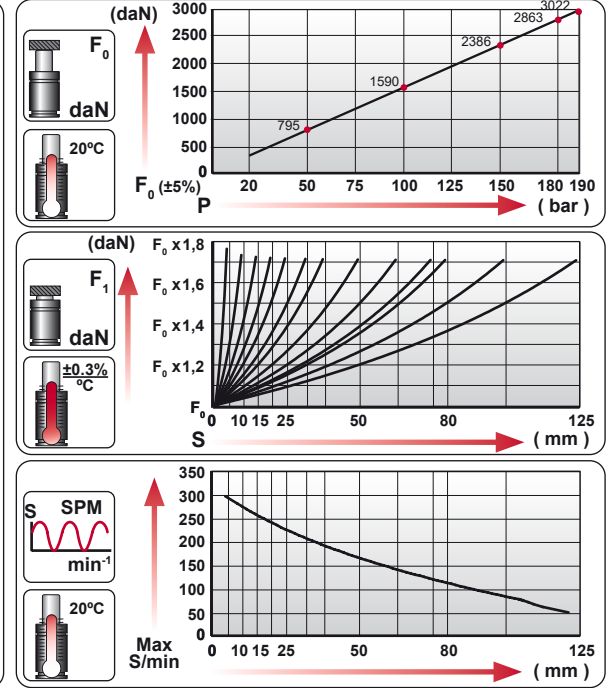
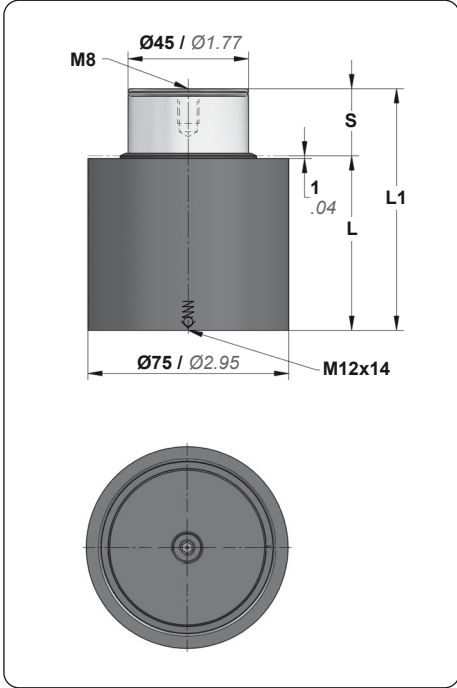
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 1500 005	5	0.20	45	1.77	40	1.57	1500 3372 ±5% 212 bar 3075 psi at 20°C 68°F		2847	6400	7	0.5	0.52	1.15
HF 1500 010	10	0.39	55	2.17	45	1.77			2791	6274	15	0.9	0.56	1.23
HF 1500 013	13	0.51	61	2.40	48	1.89			2779	6247	20	1.2	0.58	1.28
HF 1500 015	15	0.59	65	2.56	50	1.97			2773	6235	23	1.4	0.60	1.32
HF 1500 020	20	0.79	75	2.95	55	2.17			2765	6216	31	1.9	0.64	1.41
HF 1500 025	25	0.98	85	3.35	60	2.36			2760	6204	39	2.4	0.69	1.52
HF 1500 032	32	1.26	99	3.90	67	2.64			2755	6194	50	3.0	0.75	1.65
HF 1500 038	38	1.50	111	4.37	73	2.87			2753	6188	59	3.6	0.80	1.76
HF 1500 050	50	1.97	135	5.31	85	3.35			2750	6181	78	4.7	0.91	2.01
HF 1500 063	63	2.48	161	6.34	98	3.86			2748	6177	98	6.0	1.02	2.25
HF 1500 075	75	2.95	185	7.28	110	4.33			2746	6174	117	7.1	1.12	2.47
HF 1500 080	80	3.15	200	7.87	120	4.72			2746	6173	125	7.6	1.19	2.62
HF 1500 100	100	3.94	235	9.25	135	5.31			2745	6170	156	9.5	1.34	2.95
HF 1500 125	125	4.92	285	11.22	160	6.30			2744	6168	195	11.9	1.56	3.44

TECHNICAL DATA

	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 212 bar 290 psi 3075 psi		Tmin Tmax 0°C 80°C 32°F 176°F		Charging Adapter	10 GA 1
	Smax	< 90%		Force variation by temperature	±0,3% / °C		Connection		Seal Kit	S-XXXXXXX
	Vmax	0,5 m/s								

HF 3000

High Frequency-Force



VDI
SAFETY

STANDARDS

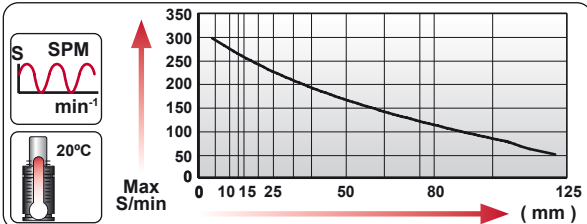
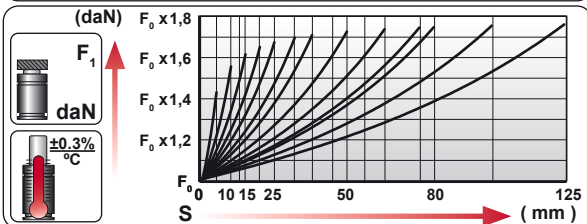
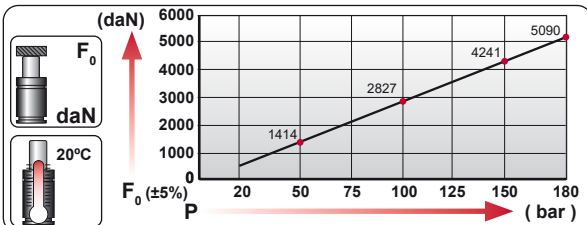
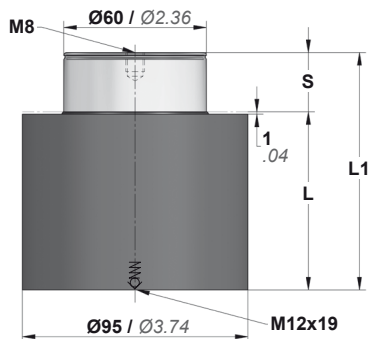
ORDER	S		L1 ±0.25		L		F ₀ Initial Force		F ₁ (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm ³	in ³	Kg.	lb
HF 3000 005	5	0.20	50	1.97	45	1.77	3020 6789 ±5% 190 bar 2755 psi at 20°C 68°F		5342	12010	18	1.1	1.30	2.87
HF 3000 010	10	0.39	60	2.36	50	1.97			5253	11809	37	2.3	1.39	3.06
HF 3000 015	15	0.59	70	2.76	55	2.17			5225	11746	57	3.4	1.48	3.26
HF 3000 020	20	0.79	80	3.15	60	2.36			5211	11715	76	4.6	1.57	3.46
HF 3000 025	25	0.98	90	3.54	65	2.56			5203	11696	95	5.8	1.65	3.64
HF 3000 032	32	1.26	104	4.09	72	2.83			5195	11680	122	7.4	1.77	3.90
HF 3000 038	38	1.50	115	4.53	77	3.03			5191	11671	144	8.8	1.86	4.10
HF 3000 050	50	1.97	140	5.51	90	3.54			5186	11659	190	11.6	2.08	4.59
HF 3000 063	63	2.48	166	6.54	103	4.06			5183	11652	240	14.7	2.30	5.07
HF 3000 075	75	2.95	190	7.48	115	4.53			5181	11647	286	17.5	2.51	5.53
HF 3000 080	80	3.15	205	8.07	125	4.92			5180	11646	305	18.6	2.65	5.84
HF 3000 100	100	3.94	245	9.65	145	5.71			5178	11641	382	23.3	2.99	6.59
HF 3000 125	125	4.92	295	11.61	170	6.69			5177	11638	477	29.1	3.42	7.54

TECHNICAL DATA													
	Fluid	N ₂		Pmin	Pmax	20 bar	190 bar		20°C	68°F		Charging Adapter	12 GA 1
	Smax	< 90%		Tmin	Tmax	0 °C	80 °C		Connection	X		Seal Kit	X
	Vmax	0,5 m/s		Force variation by temperature		±0,3% / °C							

AZOL
GAS

HF 5000

High Frequency-Force

VDI
SAFETY

STANDARS



ORDER	S		L1 ±0.25		L		F0 Initial Force		F1 (ISOTHERMAL) End Force		Vol.			
	mm	inch	mm	inch	mm	inch	daN	lb	daN	lb	cm³	in³	Kg.	lb
HF 5000 005	5	0.20	60	2.36	55	2.17	5090 ±5% 180 bar 2610 psi at 20°C 68°F	11443	7273	16351	47	2.9	2.45	5.40
HF 5000 010	10	0.39	70	2.76	60	2.36			7919	17803	79	4.8	2.66	5.86
HF 5000 015	15	0.59	80	3.15	65	2.56			8229	18498	111	6.8	2.80	6.17
HF 5000 020	20	0.79	90	3.54	70	2.76			8410	18907	143	8.7	2.93	6.46
HF 5000 025	25	0.98	100	3.94	75	2.95			8530	19175	175	10.7	3.07	6.77
HF 5000 032	32	1.26	114	4.49	82	3.23			8641	19426	220	13.4	3.26	7.19
HF 5000 038	38	1.50	126	4.96	88	3.46			8708	19575	259	15.8	3.43	7.56
HF 5000 050	50	1.97	150	5.91	100	3.94			8796	19775	336	20.5	3.76	8.29
HF 5000 063	63	2.48	176	6.93	113	4.45			8856	19910	419	25.6	4.12	9.08
HF 5000 075	75	2.95	200	7.87	125	4.92			8894	19995	496	30.3	4.45	9.81
HF 5000 080	80	3.15	210	8.27	130	5.12			8907	20024	528	32.2	4.58	10.10
HF 5000 100	100	3.94	250	9.84	150	5.91			8946	20110	656	40.0	5.14	11.33
HF 5000 125	125	4.92	300	11.81	175	6.89			8977	20181	816	49.8	5.82	12.83

TECHNICAL DATA

	Fluid	N ₂		Pmin Pmax 20°C / 68°F	20 bar 290 psi	180 bar 2610 psi		Charging Adapter	12 GA 1
	Smax	< 90%		Tmin Tmax	0 °C 32 °F	80 °C 176 °F		Connection	X
	Vmax	0,5 m/s		Force variation by temperature	±0,3% / °C			Seal Kit	S-XXXXXXX