



■ Installation Recommendations for External Face Seals – Type HF – Metric

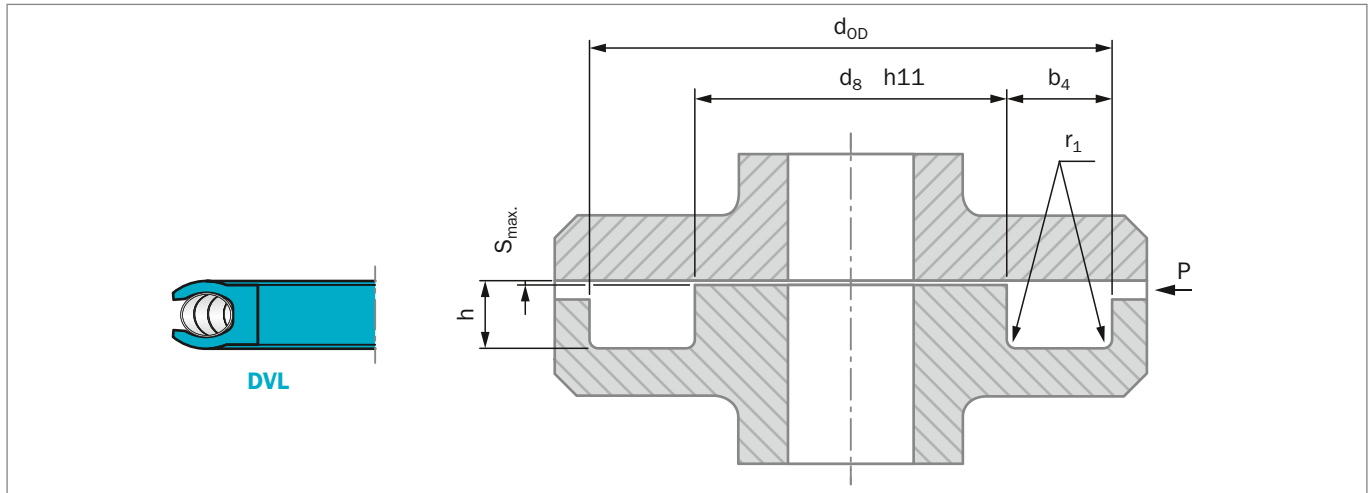


Figure 27: Installation Drawing

Table 36: Installation Dimensions – Metric

Series Number	Groove Inside Diameter d_g h11		h		b ₄	r ₁	Axial Clearance S _{max}			
	Standard Range	Extended Range ¹⁾	Groove Depth		Groove Width Min	Radius Max	2 MPa	10 MPa	20 MPa	40 MPa
DVL0	3.0 - 9.9	3.0 - 40.0	1.45	+0.03	2.40	0.25	0.20	0.10	0.08	0.05
DVL1	10.0 - 19.9	8.0 - 200.0	2.25	+0.05	3.60	0.38	0.25	0.15	0.10	0.07
DVL2	20.0 - 39.9	12.0 - 400.0	3.10	+0.08	4.80	0.38	0.35	0.20	0.15	0.08
DVL3	40.0 - 119.9	20.0 - 700.0*	4.70	+0.10	7.10*	0.38	0.50	0.25	0.20	0.10
DVL4	120.0 - 999.9**	35.0 - 1600.0**	6.10	+0.15	9.50**	0.51	0.60	0.30	0.25	0.12
DVL5	1000.0 - 2500.9***	80.0 - 2500.0***	9.50	+0.20	15.00***	0.51	0.90	0.50	0.40	0.20

* For diameters above 700 mm b₄ min. = 8.0 mm
 ** For diameters above 700 mm b₄ min. = 11.0 mm
 *** For diameters above 1000 mm b₄ min. = 18.0 mm

1) Available on request
 h11 tolerance can be found using the ISO Fits & Tolerance App, see page 88.

Table 37: Size Series – Metric

d _g	d _{OD} Min	TSS Part No.	d _g	d _{OD} Min	TSS Part No.	d _g	d _{OD} Min	TSS Part No.
4.0	8.8	DVL000040	35.0	44.6	DVL200350	85.0	99.2	DVL300850
5.0	9.8	DVL000050	36.0	45.6	DVL200360	90.0	104.2	DVL300900
6.0	10.8	DVL000060	40.0	54.2	DVL300400	95.0	109.2	DVL300950
8.0	12.8	DVL000080	42.0	56.2	DVL300420	100.0	114.2	DVL301000
10.0	17.2	DVL100100	45.0	59.2	DVL300450	105.0	119.2	DVL301050
12.0	19.2	DVL100120	48.0	62.2	DVL300480	110.0	124.2	DVL301100
14.0	21.2	DVL100140	50.0	64.2	DVL300500	115.0	129.2	DVL301150
15.0	22.2	DVL100150	52.0	66.2	DVL300520	120.0	139.0	DVL401200
16.0	23.2	DVL100160	55.0	69.2	DVL300550	125.0	144.0	DVL401250
18.0	25.2	DVL100180	56.0	70.2	DVL300560	130.0	149.0	DVL401300
20.0	29.6	DVL200200	60.0	74.2	DVL300600	135.0	154.0	DVL401350
22.0	31.6	DVL200220	63.0	77.2	DVL300630	140.0	159.0	DVL401400
25.0	34.6	DVL200250	65.0	79.2	DVL300650	150.0	169.0	DVL401500
28.0	37.6	DVL200280	70.0	84.2	DVL300700	160.0	179.0	DVL401600
30.0	39.6	DVL200300	75.0	89.2	DVL300750	170.0	189.0	DVL401700
32.0	41.6	DVL200320	80.0	94.2	DVL300800	180.0	199.00	DVL401800

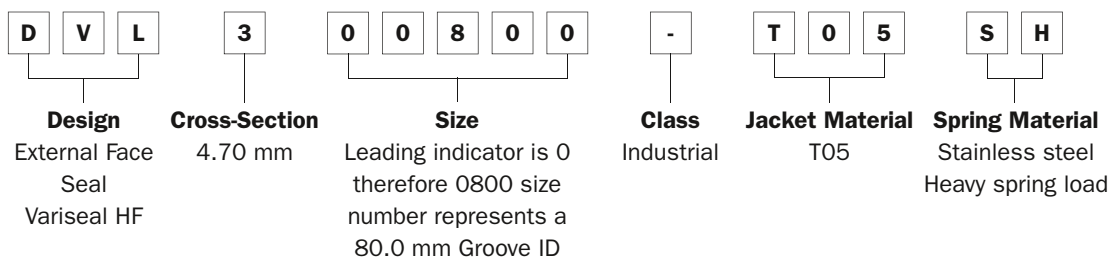
For additional size and part number details please contact your local Trelleborg Sealing Solutions Marketing company.



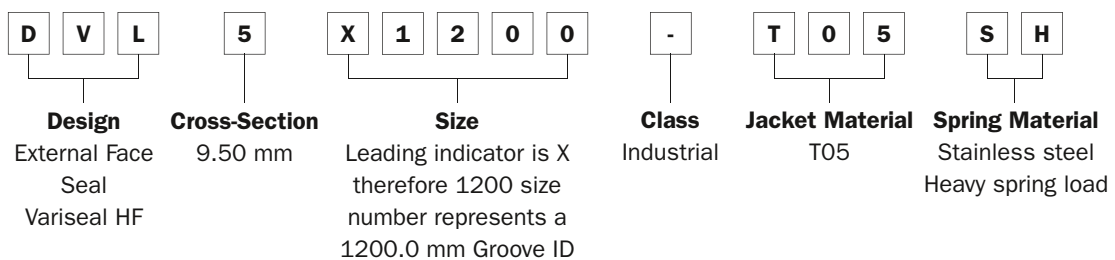
Table 38: Part Number System for External Face Seals – Metric

Article Code	Cross-Section	Size	Class	Seal Material	Spring Material	Spring Load
DVL Variseal HF (External)	0 1.45	0xxxx Groove ID <1000 (dia x 10.0)	- Industrial	T01	S Stainless Steel	Standard load for each design
	1 2.25	Xxxxx Groove ID >= 1000 (dia x 1.0)	A Aerospace	MF1	H Hastelloy	
	2 3.10			MF4	E Elgiloy	
	3 4.70			MF6		
	4 6.10			T05		
	5 9.50			T07		
				T24 See page 7 for material description		
				T40		H Heavy
				M79		
				Z48		
				Z80		

ORDERING EXAMPLE 1



ORDERING EXAMPLE 2





■ Installation Recommendations for External Face Seals – Type HF – Inch

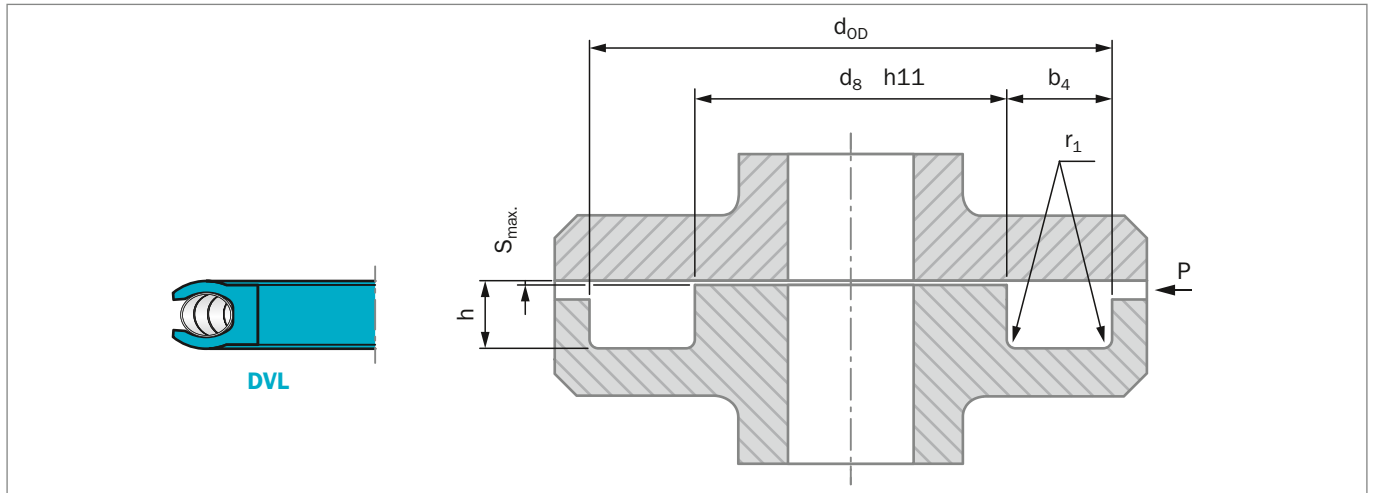


Figure 28: Installation Drawing

Table 39: Installation Dimensions – Inch

Series Number	h		b ₄ Groove Width	r ₁ Radius	Axial Clearance S _{max}			
	Groove Depth				290 psi	1,450 psi	2,900 psi	5,800 psi
	Min	Max						
DVLO	0.057	+ 0.002	0.094	0.010	0.008	0.004	0.003	0.002
DVL1	0.089	+ 0.002	0.141	0.015	0.010	0.006	0.004	0.003
DVL2	0.122	+ 0.002	0.188	0.015	0.014	0.008	0.006	0.003
DVL3	0.186	+ 0.002	0.281	0.015	0.020	0.010	0.008	0.004
DVL4	0.238	+ 0.002	0.375	0.020	0.024	0.012	0.010	0.005
DVL5	0.374	+ 0.004	0.591	0.020	0.030	0.015	0.012	0.008

h11 tolerance can be found using the ISO Fits & Tolerance App, see page 88.

Table 40: Standard Dash Sizes – Inch

d _g	d _{OD} Min	TSS Part No.	d _g	d _{OD} Min	TSS Part No.	d _g	d _{OD} Min	TSS Part No.
0.125	0.312	DVL00M006	0.875	1.157	DVL10M118	1.250	1.812	DVL30M322
0.187	0.375	DVL00M008	0.875	1.250	DVL20M212	1.375	1.562	DVL00M028
0.250	0.437	DVL00M010	0.875	1.437	DVL30M316	1.375	1.657	DVL10M126
0.375	0.562	DVL00M012	1.000	1.187	DVL00M022	1.375	1.750	DVL20M220
0.375	0.657	DVL10M110	1.000	1.282	DVL10M120	1.375	1.937	DVL30M324
0.500	0.687	DVL00M014	1.000	1.375	DVL20M214	1.500	1.687	DVL00M029
0.500	0.782	DVL10M112	1.000	1.562	DVL30M318	1.500	1.782	DVL10M128
0.625	0.812	DVL00M016	1.125	1.312	DVL00M024	1.500	1.875	DVL20M222
0.625	0.907	DVL10M114	1.125	1.407	DVL10M122	1.500	2.062	DVL30M325
0.625	1.000	DVL20M208	1.125	1.500	DVL20M216	1.500	2.250	DVL40M401
0.750	0.937	DVL00M018	1.125	1.687	DVL30M320	1.625	1.812	DVL00M030
0.750	1.032	DVL10M116	1.250	1.437	DVL00M026	1.625	1.907	DVL10M130
0.750	1.125	DVL20M210	1.250	1.532	DVL10M124	1.625	2.000	DVL20M223
0.875	1.062	DVL00M020	1.250	1.625	DVL20M218	1.625	2.187	DVL30M326



d_g	d_{OD} Min	TSS Part No.	d_g	d_{OD} Min	TSS Part No.	d_g	d_{OD} Min	TSS Part No.
1.625	2.375	DVL40M402	2.750	3.312	DVL30M335	4.250	4.532	DVL10M156
1.750	1.937	DVL00M031	2.750	3.500	DVL40M411	4.250	4.625	DVL20M244
1.750	2.032	DVL10M132	2.875	3.062	DVL00M040	4.250	4.812	DVL30M347
1.750	2.125	DVL20M224	2.875	3.157	DVL10M150	4.250	5.000	DVL40M423
1.750	2.312	DVL30M327	2.875	3.250	DVL20M233	4.500	4.782	DVL10M157
1.750	2.500	DVL40M403	2.875	3.437	DVL30M336	4.500	4.875	DVL20M246
1.875	2.062	DVL00M032	2.875	3.625	DVL40M412	4.500	5.062	DVL30M349
1.875	2.157	DVL10M134	3.000	3.187	DVL00M041	4.500	5.250	DVL40M425
1.875	2.250	DVL20M225	3.000	3.282	DVL10M151	4.750	5.032	DVL10M158
1.875	2.437	DVL30M328	3.000	3.375	DVL20M234	4.750	5.125	DVL20M248
1.875	2.625	DVL40M404	3.000	3.562	DVL30M337	4.750	5.312	DVL30M351
2.000	2.187	DVL00M033	3.000	3.750	DVL40M413	4.750	5.500	DVL40M427
2.000	2.282	DVL10M136	3.125	3.500	DVL20M235	5.000	5.282	DVL10M159
2.000	2.375	DVL20M226	3.125	3.687	DVL30M338	5.000	5.375	DVL20M250
2.000	2.562	DVL30M329	3.125	3.875	DVL40M414	5.000	5.562	DVL30M353
2.000	2.750	DVL40M405	3.250	3.437	DVL00M042	5.000	5.750	DVL40M429
2.125	2.312	DVL00M034	3.250	3.532	DVL10M152	5.250	5.532	DVL10M160
2.125	2.407	DVL10M138	3.250	3.625	DVL20M236	5.250	5.625	DVL20M252
2.125	2.500	DVL20M227	3.250	3.812	DVL30M339	5.250	5.812	DVL30M355
2.125	2.687	DVL30M330	3.250	4.000	DVL40M415	5.250	6.000	DVL40M431
2.125	2.875	DVL40M406	3.375	3.750	DVL20M237	5.500	5.782	DVL10M161
2.250	2.437	DVL00M035	3.375	3.937	DVL30M340	5.500	5.875	DVL20M254
2.250	2.532	DVL10M140	3.375	4.125	DVL40M416	5.500	6.062	DVL30M357
2.250	2.625	DVL20M228	3.500	3.687	DVL00M043	5.500	6.250	DVL40M433
2.250	2.812	DVL30M331	3.500	3.782	DVL10M153	5.750	6.125	DVL20M256
2.250	3.000	DVL40M407	3.500	3.875	DVL20M238	5.750	6.312	DVL30M359
2.375	2.562	DVL00M036	3.500	4.062	DVL30M341	5.750	6.500	DVL40M435
2.375	2.657	DVL10M142	3.500	4.250	DVL40M417	6.000	6.375	DVL20M258
2.375	2.750	DVL20M229	3.625	4.000	DVL20M239	6.000	6.562	DVL30M361
2.375	2.937	DVL30M332	3.625	4.187	DVL30M342	6.000	6.750	DVL40M437
2.375	3.125	DVL40M408	3.625	4.375	DVL40M418	6.250	6.625	DVL20M259
2.500	2.687	DVL00M037	3.750	3.937	DVL00M044	6.250	6.812	DVL30M362
2.500	2.782	DVL10M144	3.750	4.032	DVL10M154	6.250	7.000	DVL40M438
2.500	2.875	DVL20M230	3.750	4.125	DVL20M240	6.500	6.875	DVL20M260
2.500	3.062	DVL30M333	3.750	4.312	DVL30M343	6.500	7.062	DVL30M363
2.500	3.250	DVL40M409	3.750	4.500	DVL40M419	6.500	7.250	DVL40M439
2.625	2.812	DVL00M038	3.875	4.250	DVL20M241	6.750	7.125	DVL20M261
2.625	2.907	DVL10M146	3.875	4.437	DVL30M344	6.750	7.312	DVL30M364
2.625	3.000	DVL20M231	3.875	4.625	DVL40M420	6.750	7.500	DVL40M440
2.625	3.187	DVL30M334	4.000	4.187	DVL00M045	7.000	7.375	DVL20M262
2.625	3.375	DVL40M410	4.000	4.282	DVL10M155	7.000	7.562	DVL30M365
2.750	2.937	DVL00M039	4.000	4.375	DVL20M242	7.000	7.750	DVL40M441
2.750	3.032	DVL10M148	4.000	4.562	DVL30M345	7.500	7.875	DVL20M264
2.750	3.125	DVL20M232	4.000	4.750	DVL40M421	7.500	8.062	DVL30M367



d_g	d_{OD Min}	TSS Part No.	d_g	d_{OD Min}	TSS Part No.
7.500	8.250	DVL40M443	10.000	10.562	DVL30M377
8.000	8.375	DVL20M266	10.000	10.750	DVL40M449
8.000	8.562	DVL30M369	11.000	11.750	DVL40M451
8.000	8.750	DVL40M445	12.000	12.750	DVL40M453
9.000	9.375	DVL20M270	13.000	13.750	DVL40M455
9.000	9.562	DVL30M373	14.000	14.750	DVL40M457
9.000	9.750	DVL40M447	15.000	15.750	DVL40M459

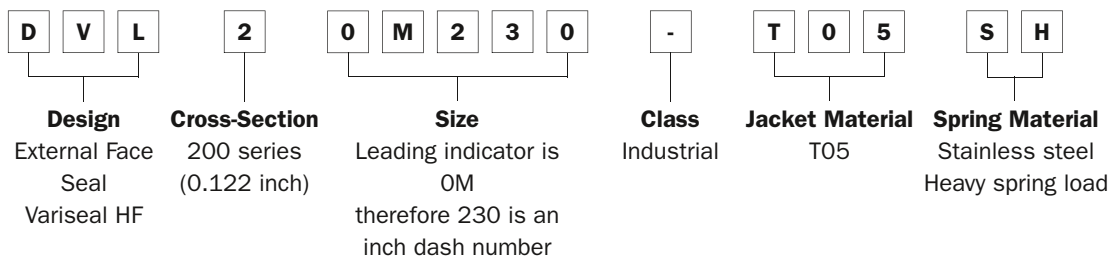
Figures in **bold** are preferred sizes.
For additional size and part number details please contact your local Trelleborg Sealing Solutions Marketing company.



Table 41: Part Number System for External Face Seals – Inch

Article Code	Cross-Section	Size	Class	Seal Material	Spring Material	Spring Load
DVL Variseal HF (External)	0 0.056 1 0.089 2 0.122 3 0.186 4 0.239 5 0.375	OMxxx Dash # Sxxxx Groove ID < 10.0 Inch (dia x 1000.0) Lxxxx Groove ID >= 10.0 (dia x 100.0)	- Industrial A Aerospace	T01 MF1 MF4 MF6 T05 T07 See page 7 T12 for material T24 description T40 M79 Z48 Z80	S Stainless Steel H Hastelloy E Elgiloy	Standard load for each design H Heavy

ORDERING EXAMPLE 1



ORDERING EXAMPLE 2

