

Sutorbilt® Legend® DSL Series

Gardner Denver

- Tradition
- Quality
- Innovation
- Results



Sutorbilt Legend DSL

Improving a great, trusted and proven product was the challenge. The Legend DSL integrates proven experience with world-class blower design and manufacturing to create a product worthy of the name “Legend.”

Quality + Tradition = Trust

- Tradition: 150 years of quality manufacturing with proven results
- Every Legend DSL is manufactured in our ISO 9001 certified facility in Sedalia, Missouri
- Each Legend DSL is individually tested to meet rigorous performance specifications
- Superior and consistent quality can be found in each Legend DSL as a result of:
 - Continual investment in the training of world-class manufacturing personnel
 - Quality inspections throughout the entire manufacturing process
- Requested by leading Original Equipment Manufacturers (OEMs) worldwide for a wide range of applications
- A Legend is at the heart of an ever-expanding variety of air solutions working every minute of every day
- Supported by a worldwide network of experienced and trusted sales and service professionals
- Quiet Series available with reduced noise up to 5 dBA
- The Legend DSL Warranty
 - **30 months** from the date of shipment or
 - **24 months** from the date of installation, whichever occurs first

Experience Proven Results with the Legend DSL

Legend DSL Provides

- Pressure to 15 psig
- Vacuum to 16" Hg
- Airflow to 950 cfm
- 24/30 Warranty

Innovation

- Refined timing and locking device incorporates frictional keyless shaft gear locking rings
 - Improves blower life with more resistance to slipped timing
 - Allows for easier maintenance
- Spherical roller bearing on drive shaft (4–6 " gear diameters only)
 - Provides greater allowance for misaligned drives, and improves longevity

Results

- Drop-in replacement for current Legend products
- Operating temperatures which can be up to 15 °F cooler compared to leading competitive brands
- Greater durability with an increased capacity for overhung load by as much as 30%
- Unmatched strength and rigidity from increased mass, which can be up to 37% more than leading competitive brands
- Universal mounting feet allows for easy field conversion

Advanced Engineering Capabilities

Finite Element Analysis (FEA) – thermal analysis

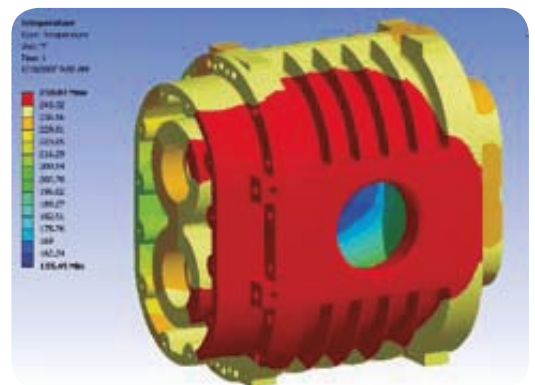


Figure 1 – Previous design was developed without the benefit of FEA thermal analysis.

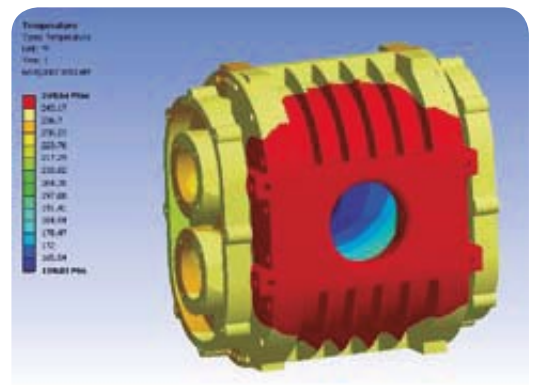
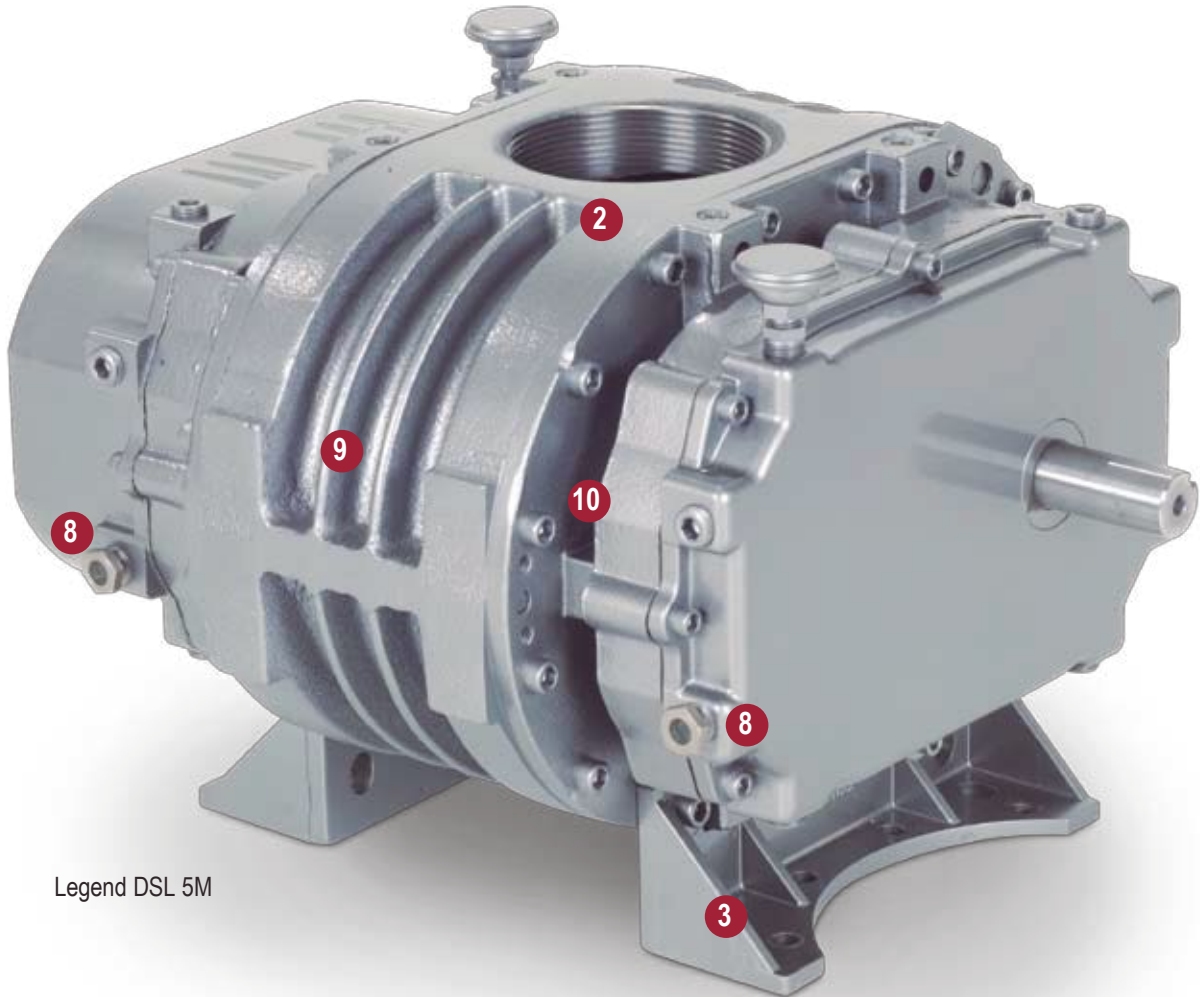


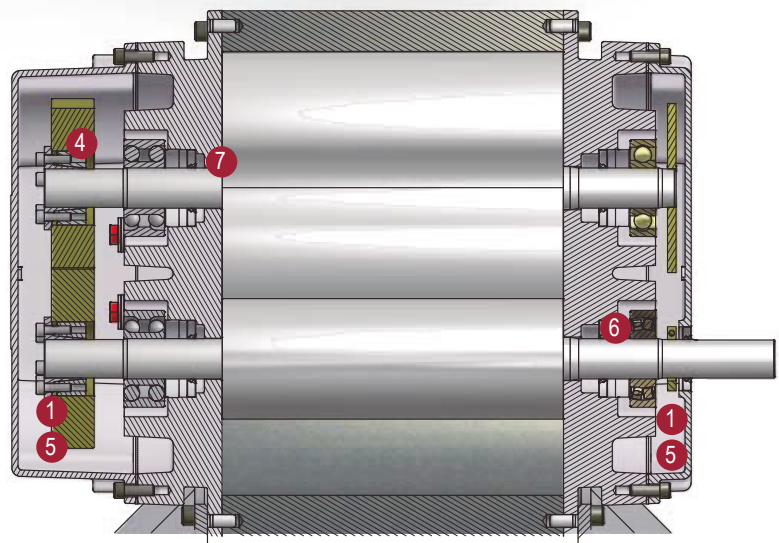
Figure 2 – With FEA thermal analysis, a good design was made great.

- Innovative bearing housing design with air gaps reduce drive end sump temperatures which can be up to 15°F, extending lubricant, bearing, and blower life

Legendary DSL Design Features & Benefits



Legend DSL 5M



1. Dual Splash Lubrication

- Reliable splash lubrication on both gear and drive ends for longer product life
- One-piece slingers are securely clamped on both shafts to ensure efficient lubrication, and allow installation flexibility



2. Single Piece Cylinder Provides Greater Strength & Rigidity

- Heavy-duty reinforced cast iron cylinder retains internal clearance
- DSL design utilizes the existing Legend cylinder and rotors with proven results

3. Universal Feet

- Drop-in replacement for current Legend design
- Reduce inventory and provide installation flexibility
- One set of feet for vertical and horizontal configurations

4. Improved Timing = Improved Reliability

- Grip rings expand against the bore and compress on the shaft for a secure, mechanical shrink fit
- Replaces pinning of timing gears
- Easier and more cost effective to teardown and rebuild



5. Larger Sump Capacities = Cooler Running Bearings

- Sump capacity is increased as much as 30% on drive end and 62% on gear end over leading competition

6. Greater Overhung Load Capacity Increases Blower Life

- Improving overhung load capabilities by as much as 30%
- Belt drive capabilities are independent of blower/motor orientation for improved packaging options
- Spherical roller drive bearing provides better misalignment capabilities (4–6 " gear diameter)
- Cylindrical drive bearing on 3 " gear diameter

7. High Temperature Viton® Oil Seals

- Maximize the seal life in continuous, severe-duty applications to provide leak-free operation

8. Site Glasses

- Installed on side of unit and can be readily converted in the field

9–10. Cooler Operating Temperatures Increases Blower Life

- Integral ribs (9) improve heat dissipation and performance
- Engineered air gap (10) to isolate the oil sumps from hot air
- Engineered lubrication channels ensure ample lubrication reaches critical components



Robust Design Improves Performance & Efficiency

- Additional weight provides more rigidity to the blower allowing greater efficiency and tighter clearances
- The Legend DSL weights are greater than leading competitive brands which can be up to 37% heavier

Mechanical Gas Seals

- The Legend DSL design accommodates mechanical gas seals for critical gas applications

LOW PRESSURE	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	2 PSIG		3 PSIG		4 PSIG		5 PSIG		6 PSIG		7 PSIG	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3L 3LV	2 1/2"-S	0.104	1,760 2,265 2,770 3,600	149 202 254 341	1.9 2.4 2.9 3.7	142 194 247 333	2.8 3.5 4.3 5.3	135 188 240 327	3.7 4.7 5.5 7.1	130 182 235 321	4.5 5.6 6.8 8.9
4L 4LV	3"-S	.170	1,760 2,190 2,620 3,600	253 326 400 566	3.0 3.7 4.4 5.8	243 316 389 556	4.5 5.3 6.3 8.7	234 307 381 547	5.7 7.1 8.4 11.6	227 300 373 539	7.1 8.8 10.6 14.5	220 293 366 533	8.5 10.6 12.7 17.4	213 286 360 526	9.9 12.4 14.8 20.3	
5L 5LV	4"-S	.350	1,500 1,760 2,100 2,850	463 554 673 936	5.2 5.8 7.0 9.5	449 540 659 922	7.5 8.8 10.5 14.2	438 529 648 910	10.0 11.7 13.9 18.9	427 518 637 900	12.4 14.6 17.4 23.6	418 509 628 890	14.9 17.5 20.9 28.4	409 500 619 882	17.4 20.4 24.4 33.1	
6L 6LV	6"-F	.718	1,170 1,760 1,930 2,350	739 1,162 1,284 1,586	8.0 12.0 13.1 16.0	716 1,139 1,261 1,563	11.9 18.0 19.7 24.0	697 1,120 1,242 1,544	15.9 24.0 26.3 32.0	680 1,103 1,225 1,527	19.9 29.9 32.8 40.0	664 1,088 1,210 1,512	23.9 35.9 39.4 48.0	650 1,074 1,196 1,497	27.9 41.9 46.0 56.0	

MEDIUM PRESSURE	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	7 PSIG		9 PSIG		10 PSIG		12 PSIG		13 PSIG		14 PSIG	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3M 3MV	2"-S	0.060	1,760 2,265 2,770 3,600	64 95 125 175	3.6 4.6 5.5 7.2	59 89 119 169	4.6 5.8 7.1 9.2	87 117 167	6.4 7.9 10.2	112 162	9.5 12.3
4M 4MV	2 1/2"-S	.117	1,760 2,190 2,620 3,600	144 194 245 359	6.8 8.5 10.2 14.0	136 186 236 351	8.8 10.9 13.1 18.0	132 182 233 347	9.8 12.1 14.5 20.0							
5M 5MV	4"-S	.210	1,500 1,760 2,100 2,850	237 292 363 521	10.5 12.3 14.6 19.9	227 281 353 510	13.4 15.8 18.8 25.5	222 277 348 506	14.9 17.5 20.9 28.4	213 268 339 497	17.9 21.0 25.1 34.0	209 263 335 493	19.4 22.8 27.2 36.9			
6M 6MV	5"-S	.383	1,170 1,760 1,930 2,350	332 558 622 784	14.9 22.4 24.5 29.9	316 542 607 768	19.1 28.8 31.5 38.4	309 535 600 761	21.2 32.0 35.0 42.7	296 522 587 748	25.5 38.3 42.0 51.2	289 515 580 741	27.6 41.5 45.5 55.5	283 509 574 735	29.7 44.7 49.1 59.7	

HIGH PRESSURE	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	7 PSIG		8 PSIG		9 PSIG		11 PSIG		13 PSIG		15 PSIG	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3H 3HV	1 1/4"-S	0.045	1,760 2,265 2,770 3,600	46 69 91 129	2.6 3.4 4.1 5.4	44 66 89 126	3.0 3.9 4.7 6.1	41 64 87 124	3.4 4.3 5.3 6.9	60 83 120	5.3 6.5 8.4
4H 4HV	1 1/2"-S	.069	1,760 2,190 2,620 3,600	80 110 139 207	4.0 5.0 6.0 8.2	77 107 137 204	4.6 5.7 6.9 9.4	74 104 134 201	5.2 6.4 7.7 10.6	99 129 196	7.9 9.4 13.0	124 192	11.1 15.3	188 17.7		
5H 5HV	2 1/2"-S	.140	1,500 1,760 2,100 2,850	154 191 238 343	7.0 8.2 9.8 13.2	151 187 235 340	8.0 9.3 11.1 15.1	147 183 231 336	9.0 10.5 12.5 17.0	140 177 224 329	10.9 12.8 15.3 20.8	171 218 323	15.2 18.1 24.6	165 213 318	17.5 20.9 28.4	
6H 6HV	3"-S	.227	1,170 1,760 1,930 2,350	188 321 360 455	8.8 13.3 14.5 17.7	182 316 355 450	10.1 15.1 16.6 20.2	177 311 350 445	11.3 17.0 18.7 22.8	168 302 340 436	13.8 20.8 22.8 27.8	153 293 332 427	16.4 24.6 27.6 32.9	285 324 419	28.4 31.1 37.9	

LOW VACUUM	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	2 "Hg		4 "Hg		8 "Hg		10 "Hg		12 "Hg		14 "Hg	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3L 3LV	2 1/2"-S	0.104	1,760 2,265 2,770 3,600	158 211 264 350	1.1 1.3 1.5 1.9	147 200 252 338	1.9 2.4 2.9 3.7	128 180 233 319	3.6 4.6 5.4 7.0	118 171 223 309	4.5 5.5 6.7 8.7
4L 4LV	3"-S	.170	1,760 2,190 2,620 3,600	266 339 412 579	1.6 1.9 2.3 3.1	250 323 396 563	3.0 3.7 4.3 5.7	224 297 370 537	5.6 6.9 8.3 11.4	211 284 357 524	7.0 8.7 10.4 14.3	197 270 343 510	8.4 10.4 12.4 17.1	329 495	14.5 20.0	
5L 5LV	4"-S	.350	1,500 1,760 2,100 2,850	480 571 690 953	2.6 3.1 3.6 4.8	459 550 669 932	5.1 5.7 6.8 9.3	424 515 634 896	9.8 11.5 13.7 18.6	406 497 616 879	12.2 14.3 17.1 23.2	388 479 598 860	14.7 17.2 20.5 27.9	459 578 840	20.1 24.0 32.5	
6L 6LV	6"-F	.718	1,170 1,760 1,930 2,350	766 1,190 1,312 1,614	4.1 5.9 6.5 7.9	732 1,115 1,278 1,579	7.8 11.8 12.9 15.7	674 1,097 1,219 1,521	15.7 23.5 25.8 31.4	645 1,068 1,191 1,492	19.6 29.4 32.3 39.3	615 1,038 1,160 1,462	23.5 35.3 38.7 47.2	1,005 1,127 1,429	41.2 45.2 55.0	

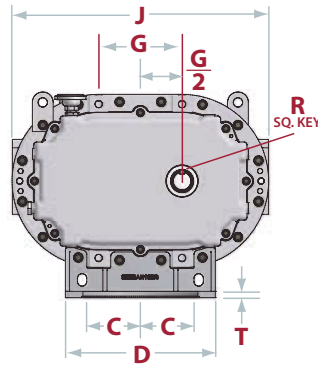
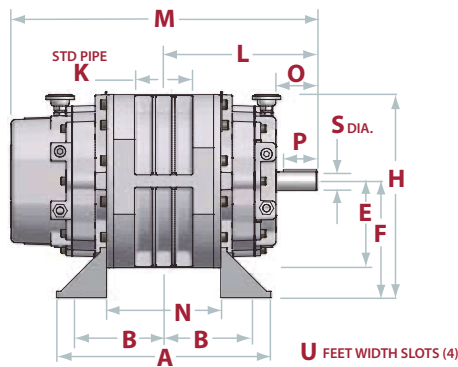
MEDIUM VACUUM	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	6 "Hg		10 "Hg		12 "Hg		14 "Hg		15 "Hg		16 "Hg	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3M 3MV	2"-S	0.060	1,760 2,265 2,770 3,600	76 106 136 186	1.6 2.0 2.4 3.1	63 93 124 174	2.6 3.3 4.0 5.0	57 87 117 167	3.1 3.9 4.7 6.0	110 160	5.4 7.0
4M 4MV	2 1/2"-S	.117	1,760 2,190 2,620 3,600	161 211 262 376	3.0 3.7 4.4 5.9	142 193 243 358	4.9 6.0 7.1 9.3	132 183 233 348	5.8 7.2 8.6 11.8	222 337	10.0 13.7	331 14.7	325 15.7			
5M 5MV	4"-S	.210	1,500 1,760 2,100 2,850	258 313 384 542	4.5 5.2 6.2 8.4	235 290 361 519	7.8 8.6 10.3 13.9	223 277 349 506	8.8 10.3 12.3 16.7	209 264 335 493	10.3 12.1 14.4 19.5	328 485	15.4 20.9	477 22.3		
6M 6MV	5"-S	.383	1,170 1,760 1,930 2,350	363 589 655 815	6.3 9.4 10.3 12.6	328 554 619 780	10.4 15.7 17.2 21.0	310 536 601 762	12.5 18.8 20.7 25.2	290 516 581 741	14.6 22.0 24.1 29.3	279 505 570 731	15.7 23.5 25.8 31.4	267 493 558 719	16.7 25.1 27.5 33.5	

HIGH VACUUM	SIZE	DIA. INLET & OUTLET	DISPL. CU. FT./REV.	RPM	6 "Hg		8 "Hg		12 "Hg		14 "Hg		15 "Hg		16 "Hg	
					CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP	CFM	BHP
					3H 3HV	1 1/4"-S	0.045	1,760 2,265 2,770 3,600	55 78 100 138	1.1 1.4 1.7 2.3	50 73 95 133	1.5 1.9 2.3 3.0	40 62 85 122	2.2 2.8 3.5 4.5	79 117	4.1 5.3
4H 4HV	1 1/2"-S	.069	1,760 2,190 2,620 3,600	91 121 151 218	1.7 2.1 2.5 3.5	85 115 144 212	2.3 2.8 3.4 4.6	72 102 132 199	3.4 4.2 5.1 6.9	95 124 192	4.9 5.9 8.1	105 120 188	5.8 6.3 8.7	184 9.3		
5H 5HV	2 1/2"-S	.140	1,500 1,760 2,100 2,850	170 206 254 359	2.9 3.4 4.1 5.6	161 198 245 350	3.9 4.6 5.5 7.4	144 180 228 333	5.9 6.9 8.2 11.2	134 171 218 323	6.8 8.0 9.6 13.0	165 213 318	8.6 10.3 14.0	312 14.9		
6H 6HV	3"-S	.227	1,170 1,760 1,930 2,350	209 343 381 477	3.7 5.6 6.1 7.5	197 331 370 465	4.8 7.4 8.2 9.9	173 307 345 441	7.4 11.2 12.2 14.9	159 293 332 427	8.7 13.0 14.3 17.4	152 286 325 420	9.3 14.0 15.3 18.6	278 317 412	14.9 16.3 19.9	

Performance based on inlet air at standard temperature of 68°F, an ambient pressure of 14.7 psia and 36% relative humidity. For performance at non-standard conditions, contact your authorized Gardner Denver representative.

Dimensional Data – Horizontal Configurations

SIZE	WT.	CONN.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
3H	71	S	6.75	2.69	2.69	7.75	3.88	5.00	3.50	8.88	11.26	1.25	5.86	12.05	3.50	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
3M	79	S	7.62	3.13	2.69	7.75	3.88	5.00	3.50	8.88	11.26	2.00	6.30	12.92	4.36	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
3L	95	S	10.24	4.44	2.69	7.75	3.88	5.00	3.50	8.88	11.26	2.5	7.61	15.55	7.00	1.78	1.63	0.19	0.75	0.25	.62 x 1.12
4H	98	S	7.25	3	3	8.25	4.19	6.25	4	10.44	12.38	1.5	6.88	13.75	4	2.38	1.81	.19	.875	.38	.5 x .75
4M	117	S	9.5	4.13	3	8.25	4.19	6.25	4	10.44	12.38	2.5	8	16	6.25	2.38	1.81	.19	.875	.38	.5 x .75
4L	142	S	12	5.38	3	8.25	4.19	6.25	4	10.44	12.38	3	9.25	18.5	8.75	2.38	1.81	.19	.875	.38	.5 x .75
5H	196	S	10.88	3.5	3.5	9	5.19	7	5	12.19	15.38	2.5	8.19	16.38	4.88	2.5	2	.25	1.125	.38	.5625 x .75
5M	215	S	12.88	4.5	3.5	9	5.19	7	5	12.19	15.38	4	9.19	18.38	6.88	2.5	2	.25	1.125	.38	.5625 x .75
5L	255	S	16.88	6.5	3.5	9	5.19	7	5	12.19	15.38	4	11.19	22.38	10.88	2.5	2	.25	1.125	.38	.5625 x .75
6H	329	S	9.75	3.94	4	16.5	6	8.75	6	14.75	18	3	9.19	18.63	5.75	2.94	2	.31	1.375	.5	.75 x 1
6M	377	S	13	5.56	4	16.5	6.19	8.75	6	14.94	18	5	10.81	21.88	9	2.94	2	.31	1.375	.5	.75 x 1
6L	549	F	20	9.06	4	16.5	7.5	8.75	6	16.25	18	6	14.31	28.88	16	2.94	2	.31	1.375	.5	.75 x 1



Dimensional Data – Vertical Configurations

SIZE	WT.	CONN.	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	T	U
3H	71	S	6.75	2.69	2.69	7.75	4.50	6.25	8.00	11.88	7.75	1.25	5.86	12.05	3.5	1.78	1.63	0.19	.75	0.25	.62 x 1.12
3M	79	S	7.62	3.13	2.69	7.75	4.50	6.25	8.00	11.88	7.75	2.00	6.30	12.92	4.36	1.78	1.63	0.19	.75	0.25	.62 x 1.12
3L	95	S	10.24	4.44	2.69	7.75	4.50	6.25	8.00	11.88	7.75	2.50	7.61	15.55	7.00	1.78	1.63	0.19	.75	0.25	.62 x 1.12
4H	98	S	7.25	3	3	8.25	4.5	6.5	8.5	12.69	8.38	1.5	6.88	13.75	4	2.38	1.81	.19	.875	.38	.5 x .75
4M	117	S	9.5	4.13	3	8.25	4.5	6.5	8.5	12.69	8.38	2.5	8	16	6.25	2.38	1.81	.19	.875	.38	.5 x .75
4L	142	S	12	5.38	3	8.25	4.5	6.5	8.5	12.69	8.38	3	9.25	18.5	8.75	2.38	1.81	.19	.875	.38	.5 x .75
5H	196	S	10.88	3.5	3.5	9	5.5	8	10.5	15.88	10.38	2.5	8.19	16.38	4.88	2.5	2	.25	1.125	.38	.5625 x .75
5M	215	S	12.88	4.5	3.5	9	5.5	8	10.5	15.88	10.38	4	9.19	18.38	6.88	2.5	2	.25	1.125	.38	.5625 x .75
5L	255	S	16.88	6.5	3.5	9	5.5	8	10.5	15.88	10.38	4	11.19	22.38	10.88	2.5	2	.25	1.125	.38	.5625 x .75
6H	329	S	9.75	3.94	4	10.5	8.75	11.75	14.75	20.75	12	3	9.19	18.63	5.75	2.94	2	.31	1.375	.5	.75 x 1
6M	377	S	13	5.56	4	10.5	8.75	11.75	14.75	20.75	12.38	5	10.81	21.88	9	2.94	2	.31	1.375	.31	.75 x 1
6L	549	F	20	9.06	4	10.5	8.75	11.75	14.75	20.75	15	6	14.31	28.88	16	2.94	2	.31	1.375	.31	.75 x 1

S = Threaded connections standard NPT. F = flange connections. Inlet and outlet connections are the same type and size. Dimensions are in inches. Weights are in pounds and are approximate.

