

IN-LINE CENTRIFUGAL PUMP TYPE MIL**APPLICATIONS**

Raj Volute casing Inline Centrifugal pumps Type **RIL** are space saving Pump units designed for easy installation and are used for circulating clean non-aggressive fluids.

Water Supply Systems.

Water Circulation / Transfer.

Hot Water Circulation.

Agriculture.

Industry.

Ship Building.

Cooling Towers.

and many other Applications.

DESIGN DETAILS

Direction of Rotation : Clock wise looking from the motor at the Pump.

Shaft Sealing : The Shaft is sealed by means of a Mechanical Seal.

Wearing Ring : Every Volute Casing is fitted with a Replaceable wearing ring.

Casing Gasket : The Volute casing is sealed by means of a flat gasket.

MOTOR

The Pump is coupled with a Electric Motor, which is a totally enclosed, fan cooled Squirrel-cage motor.

Nominal Speed	:	2900rpm
Enclosure Class	:	IP 55.
Standard Voltages	:	1 X 220 240V 3 X 380 415V

Single-phase Motors have a built in thermal overload protection.

Three phase Motors should be protected by a suitable motor starter as per local regulations.

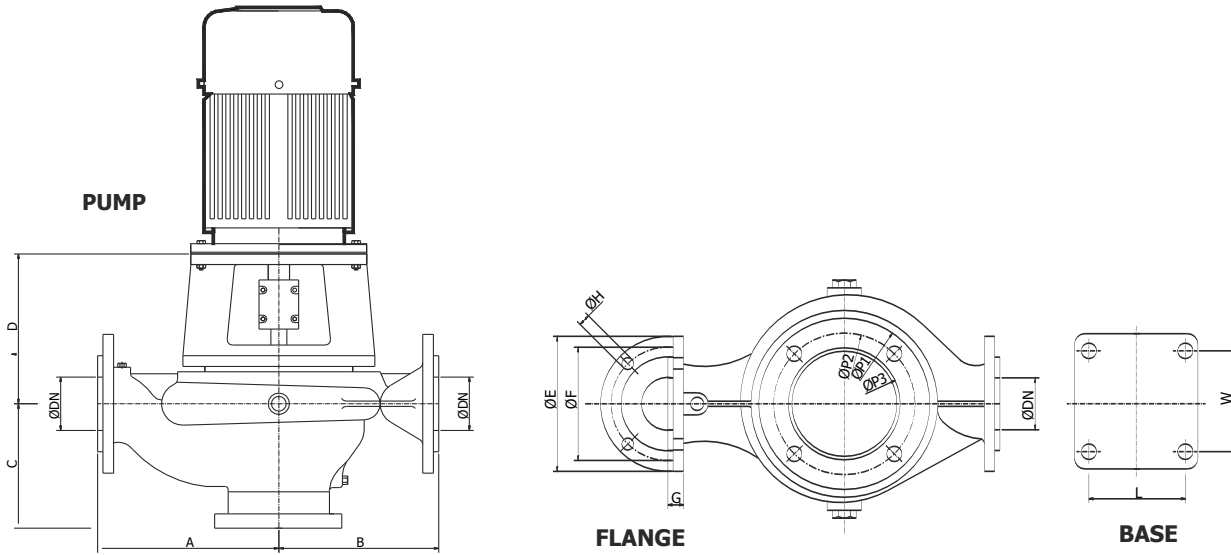
PUMP DESIGN

The Pumps are primarily designed to handle water and are suitable for handling water in water supply systems for domestic and industrial use.

Single Stage Pumping units of compact design with back pullout feature with Suction & Discharge Flange arranged in-line opposite one another for direct installation in the pipeline.

Motor and Pump are close coupled by rigid coupling. The complete rotating portion can be removed without disconnecting the Pump casing from the connecting pipe line.



IN-LINE CENTRIFUGAL PUMP TYPE MIL

VERTICAL INLINE CENTRIFUGAL PUMPS SERIES RIL.

PUMP	DN	ADAPTOR			PUMP				FLANGE				BASE		
		P1	P2	P3	A	B	C	D	E	F	G	H	J	L	W
MIL - 05	32	160	130	110	140	140	90	112	140	100	18	18X4	160	83	120
MIL - 10	40	200	165	130	150	150	110	123	150	110	18	18X4	200	83	130
MIL - 20	50	200	165	130	150	150	110	145	165	125	20	18X4	200	83	130
MIL - 30	65	200	165	130	170	170	135	146	185	145	20	18X4	215	100	180
MIL - 50	80	250	215	180	200	200	145	150	200	160	20	18X4	252	100	157
MIL - 75	80	300	265	230	240	240	150	175	200	160	20	18X4	300	100	175
MIL - 100	100	300	265	230	240	240	160	175	220	180	20	18X4	305	150	170
MIL - 110	32	200	165	130	157	157	90	140	-	-	-	-	220	83	128
MIL - 3216 T	50	250	215	180	190	190	140	170	165	125	20	18X4	264	100	180
MIL - 3220 T	50	300	265	230	200	200	144	165	165	125	20	18X4	300	100	180
MIL - 4016 T	65	300	265	230	190	190	144	176	185	145	20	18X4	300	100	180
MIL - 4020 T	65	300	265	230	250	250	144	176	185	145	20	18X4	300	100	180
MIL - 4026 T	65	350	300	250	248	248	138	240	185	145	22	18X4	350	212	232
MIL - 5016 T	80	350	300	250	238	220	170	245	200	160	22	18X8	350	212	232
MIL - 5020 T	80	350	300	250	235	235	170	245	200	160	22	18X8	350	212	232
MIL - 5026 T	80	400	350	300	245	245	150	260	200	160	22	18X8	400	212	232
MIL - 6516 T	100	350	300	250	260	260	180	250	220	180	24	18X8	350	212	232
MIL - 6520 T	100	350	300	250	260	260	170	250	220	180	24	18X8	350	212	232
MIL - 6526 T	100	550	500	450	265	265	170	250	220	180	24	18X8	550	212	232
MIL - 8016 T	150	350	300	250	295	295	190	270	285	240	29	18X8	410	212	232
MIL - 8016 T	125	400	350	300	285	285	190	285	250	210	29	18X8	400	212	232
MIL - 8020 T	125	400	350	300	285	285	185	280	250	210	29	18X8	400	212	232
MIL - 8026 T	125	550	500	450	285	285	190	315	250	210	29	18X8	400	212	232
MIL - 10020 T	125	550	500	450	300	300	190	325	285	240	29	18X8	550	212	232
MIL - 10020 T	150	550	500	450	300	300	190	325	285	240	29	18X8	550	212	232
MIL - 10020 T	150	550	500	450	300	300	195	325	285	240	29	18X8	550	212	232
MIL - 10026 T	125	550	500	450	310	310	195	320	285	240	29	18X8	550	212	232
MIL - 10026 T	150	550	500	450	310	315	200	320	285	240	29	18X8	550	212	232
MIL - 10026 T	150	550	500	450	315	315	185	320	285	240	29	18X8	550	212	232
MIL - 12526 T	150	660	600	550	410	400	215	355	285	240	29	18X8	660	225	270

"T" Pumps fitted with T.C. Bush.

IN-LINE CENTRIFUGAL PUMP TYPE MIL
PERFORMANCE CHART OF RIL PUMPS AT 2900 RPM

RATING REF	PIPE SIZE IN MM	POWER (HP)	TOTAL HEAD IN METER											
			10	12	14	16	18	20	22	24	26	28	30	32
			DISCHARGE IN LPM / M ³ /Hr.											
MIL-05	32 X 32	0.5	140 / 8.4	115 / 6.9	70 / 4.2									
MIL-10	40 X 40	1	250 / 15	225 / 13.5	195 / 11.7	145 / 8.7								
MIL-20	50 X 50	2	-	430 / 25.8	400 / 24	350 / 21	260 / 15.6							
MIL-30	65 X 65	3	-		600 / 36	550 / 33	465 / 27.9	350 / 21						
MIL-50	80 X 80	5	-				910 / 54.6	835 / 50.1	750 / 45	600 / 36				
MIL-75	80 X 80	7.5	-		1355 / 81.3	1285 / 77.1	1225 / 73.5	1125 / 67.5	1025 / 61.5	875 / 52.5				

IN-LINE CENTRIFUGAL PUMP TYPE MIL

PERFORMANCE CHART OF RIL PUMPS AT 2900 RPM

RATING REF	PIPE SIZE IN MM	POWER (HP)	TOTAL HEAD IN METER													
			10	12	14	16	18	20	22	24	26	28	30	32		
			DISCHARGE IN LPM / M ³ /Hr.													
MIL-100	100 X 100	10	-						1425 / 85.5	1355 / 81.3	1295 / 77.7	1215 / 72.9	1125 / 67.5	1025 / 61.5	900 / 54	-
MIL-110	32 X 32	1	172 / 10.3	160 / 9.6	145 / 8.7	127 / 7.6	107 / 6.4	83 / 5	-							
		1.5	207 / 12.4	200 / 12	188 / 11.3	178 / 10.7	165 / 9.9	148 / 8.9	132 / 7.9	113 / 6.8	90 / 5.4	33 / 2	-			
		2	225 / 13.5	220 / 13.2	210 / 12.6	201 / 12.1	190 / 11.4	180 / 10.8	170 / 10.2	155 / 9.3	137 / 8.2	123 / 7.4	108 / 6.5	67 / 4		

NOTES :-

- VALUES ARE VALID FOR WATER AT 1KG/DM3 AND VISCOSITY OF 1 CST.
- CAPACITY ± 10% , DELIVERY HEAD ±10% , POWER ±10%
- CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY
- SELECTION OF THE MOTOR RESULTS FROM OPERATING DATA SPECIFICATION AND IS NOT NECESSARILY VALID FOR THE COMPLETE RANGE OF PERFORMANCE OF THE PRODUCT.

PUMP MODEL	PIPE SIZE (MM)	MAX. IMPELLER	REQD. IMPELLER	POWER kW / HP	MOTOR FRAME	TOTAL HEAD IN METERS																					
						15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90				
						DISCHARGE IN M3/Hr																					
MIL-3216	50 X 50	178	178	3.7 / 5	100L				31	29.5	26	20															
			148	2.2 / 3	90L	25.5	24	22	14																		
MIL-3220	50 X 50	216	216	7.5 / 10	132S						26	25	23.5	22	20	16.5	10										
			200	5.5 / 7.5	132S					24.5	23	22	20	17	11												
MIL-4016	65 X 65	187	187	7.5 / 10	132S							46	41	34	20												
			177	5.5 / 7.5	132S						45	41	34														
			155	3.7 / 5	100L				38	31	19																
MIL-4020	65 X 65	216	216	11 / 15	160M								50	48	43	32											
			195	7.5 / 10	132S							44	40	30													
			175	5.5 / 7.5	132S						41	38	31.5														
MIL-4026	65 X 65	264	264	18.5 / 25	160L									52	49.5	47	45	43	40.5	38	35	29					
			245	15 / 20	160M								47	45	43	40.5	38	35	32	20							
			225	11 / 15	160M							45	43	40.5	38	35	32	28									
MIL-5016 B	80 X 80	180	180	11 / 15	160M				98	95	88	78	65	48													
			156	7.5 / 10	132S	83	81	78	74	61	42																
			144	5.5 / 7.5	132S	72	70	66	60	43																	

IN-LINE CENTRIFUGAL PUMP TYPE MIL

PUMP MODEL	PIPE SIZE (MM)	MAX. IMPELLER	REQD. IMPELLER	POWER kW / HP	MOTOR FRAME	TOTAL HEAD IN METERS																						
						15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90					
						DISCHARGE IN M3/Hr																						
MIL-3216 MIL-5020 B	50 X 50	178	215	18.5 / 25	160L											98	93	85	75									
	80 X 80		200	15 / 20	160M											92	85	76	45									
			182	11 / 15	160M											83	74	60										
			160	7.5 / 10	132S											69	57											
MIL-5026 B	80 X 80	266	266	30 / 40	200L																85	80	73	64	53			
			240	22 / 30	180M																78	73	67	57	40			
			230	18.5 / 25	160L																71	64	53					
			210	15 / 20	160M											66	58	47										
MIL-6516 B	100 X 100	181	181	15 / 20	160M											164	150	130	100									
			160	11 / 15	160M	146	144	139	132	105	57																	
			140	7.5 / 10	132S	116	112	100	85																			
MIL-6520 B	100 X 100	220	220	30 / 40	200L											157	154	146	135	117	80							
			200	22 / 30	180M											142	137	127	109	73								
			188	18.5 / 25	160L											135	131	120	100									
			176	15 / 20	160M											124	114	95										

PUMP MODEL	PIPE SIZE (MM)	MAX. IMPELLER	REQD. IMPELLER	POWER kW / HP	MOTOR FRAME	TOTAL HEAD IN METERS																	
						15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
						DISCHARGE IN M3/Hr																	
MIL-3216 MIL-6526 B	50 X 50	178	264	45 / 60	225M											150	145	140	130	120	100		
	100 X 100		250	37 / 50	200L											140	135	128	118	100			
			236	30 / 40	200L											131	125	115	100				
			210	22 / 30	180M											115	106	91					
			200	18.5 / 25	160L											110	102	88					
MIL-8016B	125 X 125	176	176	18.5 / 25	160L											190	170	90					
			162	15 / 20	160M											160	90						
			153	11 / 15	160M											160	120						
MIL-8016	150 X 150	210	210	30 / 40	200L											220	190	130					
			195	22 / 30	180M											208	178	100					
			184	18.5 / 25	160L											190	180	125					
			172	15 / 20	160M											180	149						
MIL-8020	125 X 125	240	235	45 / 60	225M											208	190	156	70				
			225	37 / 50	200L											202	192	170	120				
			210	30 / 40	200L											188	177	145					
			190	22 / 30	180M											168	148	80					

IN-LINE CENTRIFUGAL PUMP TYPE MIL

PUMP MODEL	PIPE SIZE (MM)	MAX. IMPELLER	REQD. IMPELLER	POWER kW / HP	MOTOR FRAME	TOTAL HEAD IN METERS																	
						15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
						DISCHARGE IN M3/Hr																	
MIL-3216 MIL-8026	50 X 50	178	261	55 / 75	250M																		
	125 X 125		245	45 / 60	225M																		
			230	37 / 50	200L																		
			215	30 / 40	200L																		
MIL-10020	125 X 125	218	218	55 / 75	250M																		
			210	45 / 60	225M																		
			197	37 / 50	200L																		
MIL-10020 I	150 X 150	240	240	55 / 75	250M																		
			228	45 / 60	225M																		
			213	37 / 50	200L																		
			200	30 / 40	200L																		
MIL-10026B	125 x 125	264	264	90 / 120	280M																		
			248	75 / 100	280S																		
			225	55 / 75	250M																		
			210	45 / 60	225M																		

PUMP MODEL	PIPE SIZE (MM)	MAX. IMPELLER	REQD. IMPELLER	POWER kW / HP	MOTOR FRAME	TOTAL HEAD IN METERS																	
						15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
						DISCHARGE IN M3/Hr																	
MIL-3216 MIL-10026 1 ST	50 X 50	178	290	90 / 120	280M																		
	150 x 150		290	75 / 100	280S																		
			243	55 / 75	250M																		
MIL-12526	150 X 150	264	264	160 / 215	315LX																		
			253	132 / 180	315M																		
			238	110 / 150	315S																		
			224	90 / 120	280M																		

VALUES ARE VALID FOR WATER AT 1KG/DM3 AND VISCOSITY OF 1 CST.

CAPACITY ± 10% , DELIVERY HEAD ±10% , POWER ±10%

CURVES ARE APPROXIMATE, PUMP IS GUARANTEED FOR ONE SET OF CONDITIONS; CAPACITY, HEAD, AND EFFICIENCY

SELECTION OF THE MOTOR RESULTS FROM OPERATING DATA SPECIFICATION AND IS NOT NECESSARILY VALID FOR THE COMPLETE RANGE OF PERFORMANCE OF THE PRODUCT.

NOTES :-

IN-LINE CENTRIFUGAL PUMP TYPE MIL



PUMPS INSTALLED IN STEEL PLANT



PUMPS INSTALLED IN FILTRATION PLANT



IN-LINE PUMPS WORKING AT A.C PLANTS



**HIGH PRESSURE VERTICAL IN-LINE
COMBO PUMPS.
PRESSURE: 18 BAR
FLOW: 500M³/Hr**