pompetravaini

Toshniwal®

ADVANCED LIQUID RING VACUUM TECHNOLOGY

TRH-TRS

Toshniwal leader in Vacuum Engineering for over 60 years, now provide further solution to your vacuum needs.

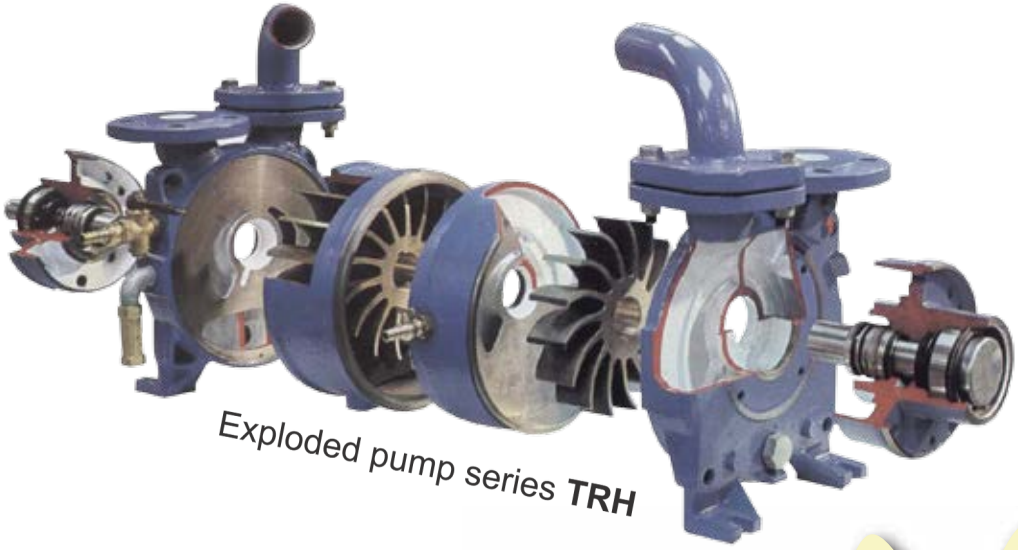
LIQUID RING VACUUM PUMPS

Capacity upto 3500 m^3/ hr
max vacuum 33 mbar

LIQUID RING VACUUM PUMPS SERIES TRH-TRS

Pumps series **TRH**
Capacity = 3-3500 m^3/h
Vacuum = 33-200 mbar

POMPETRAVAINI is one of the leading worldwide manufacturers of liquid ring vacuum pumps with single stage (TRS) and two stages (TRH) pump series. With the experience acquired through decades of engineering research, continual investments in the latest technological advanced machinery and sound mechanical know - how, Pompetravavini's product is today synonymous with high quality, high efficiency, robust construction and maximum reliability.



*Exploded pump series **TRH***

Pumps series **TRS**
Capacity = 10-3500 m^3/h
Vacuum = 200-900 mbar

Applications

- Central vacuum systems
- Deaeration
- Impregnation
- Boiling processes
- Vacuum condensing
- Distillation
- Drying
- Sterilization
- Filtration
- Solvent recovery

LIQUID HANDLING CAPABILITY:

Pumps are capable of handling even high volumes of vapours, condensable and liquids, without detrimental consequences to their performance or their mechanical reliability.
Pump service liquid can be water or other liquids such as oils, solvents, etc. to satisfy almost any process requirements.

PRESSURE TO LESS THAN 33 MBAR:

Liquid ring vacuum pumps, type TRH in series with devices such as ejector and / or vacuum boosters can operate at pressure lower than 1 mbar.

Features :

Fewer components, Compact dimensions, Standard mechanical seals, Large selection of materials

EXAMPLE FOR MODEL DESIGNATION

T	R	H	C	80 - 750 /	C	- M /	RX

T	POMPETRAVAINI construction	C	Shaft sealing C = Mechanical seal C2 = Double mechanical seal B = Packing seal
R	Liquid ring pump	M	Close-coupled construction with lantern (on request)
H	H=Double stage pump for high vacuum S=Single stage pump for medium vacuum	RX	Materials of construction F = RX = RA = A3 = — See table
C	Design number		
80	Ø Flange size (mm)		
750	Nominal capacity m^3/h		

STANDARD MATERIALS OF CONSTRUCTION

VDMA N"	Description	F	RX	RA	A3
106	Suction casing	Cast iron			
107	Discharge casing				
137	Port plate				
110	Impeller housing				
210	Shaft	SS AISI 420	SS AISI 304 ASTM-CF8M	SS AISI 316 ASTM-CF8M	
147	Manifold	Steel			
357	Bearing and mech. seal house	Cast iron			
230	Impeller	Ductile iron	SS AISI 304 ASTM-CF8M	SS AISI 316 ASTM-CF8M	

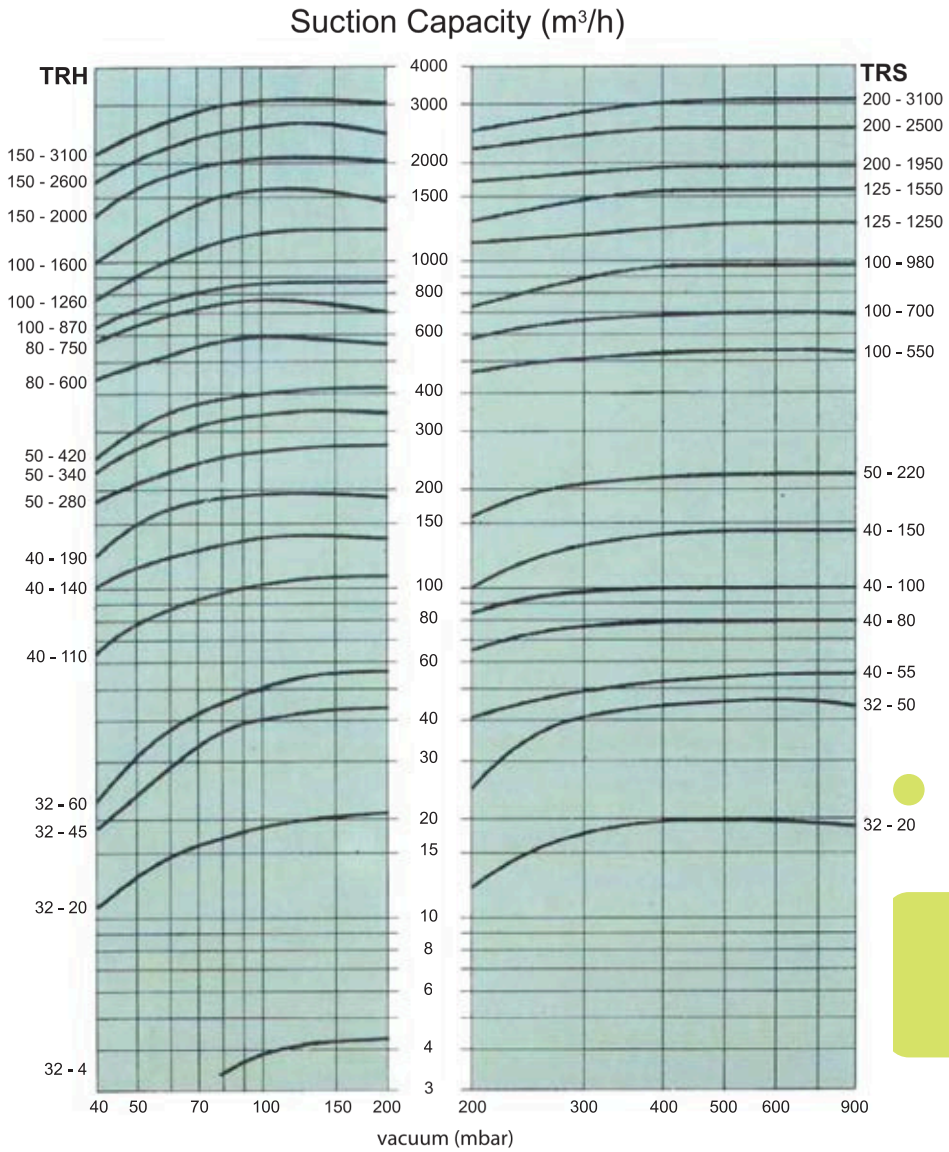
SPECIAL MECHANICAL SEALS VARIANT

- Graphite / SiC / Viton (Standard)
- Carbon Graphite / SiC / Perflorelastomer
- SiC / SiC / PTFE
- Graphite / SiC / EPDM

PERFORMANCE CURVES AT 50 CYCLES

Data based on :

20°C - Suction dry air
Water - Service liquid
15°C - Service liquid temperature
1013mbar - Discharge pressure



PERFORMANCE OF PUMPS SERIES TRH

ABSOLUTE PRESSURE			mbar	213		147		107		80		53		40		33		Average service liquid flow (1)
			torr	160		110		80		60		40		30		25		
VACUUM			mm Hg	600		650		680		700		720		730		735		
PUMP TYPE	Flange size	Motor Power KW	Girl/1' R.P.M	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h
TRH 32-4	32	0.55	1450	4.4	0.4	4.2	0.4	4	0.4	3.3	0.4	-	-	-	-	-	-	0.16
TRH 32-20	32	1.1	2900	21	0.8	20	0.8	19	0.8	17	0.8	14	0.8	11	0.8	-	-	0.3
TRH 32-45	32	1.5	2900	44	1.3	43	1.3	40	1.2	36	1.2	27	1.2	18	1.2	-	-	0.3
TRH 32-60	32	2.2	2900	54	1.8	55	1.75	51	1.6	46	1.6	35	1.6	24	1.6	17	1.6	0.7
TRH 40-110	40	4	1450	105	2.9	107	2.9	102	2.9	98	2.8	81	2.7	66	2.6	51	2.6	0.75
TRH 40-140	40	4	1450	140	3.4	144	3.2	142	3	136	2.9	122	2.8	104	2.8	85	2.8	0.8
TRH 40-190	40	5.5	1450	184	4.5	190	4.2	190	4	186	3.8	162	3.7	130	3.6	100	3.6	0.85
TRH 50-280	50	9	1450	285	7.5	281	7.3	270	7	255	6.6	215	6.6	180	6.6	160	6.6	1.2
TRH 50-340	50	11	1450	340	9.1	345	8.6	340	8.3	325	8.2	280	8.1	230	8.1	185	8.1	1.7
TRH 50-420	50	15	1450	415	10.8	420	10.3	410	9.6	390	9.2	330	8.8	260	8.8	210	8.8	2.3
TRH 80-600	80	22	1450	555	17.4	575	17	580	16.5	570	15.9	510	15.1	450	14.7	400	14.5	2.1
TRH 80-750	80	30	1450	690	22	745	21	760	20.2	740	19.8	670	18.8	580	18	520	17.6	2.4
TRH 100-870	100	30	960	870	24	880	23	860	22	820	21	740	21	630	21	569	21	4.8
TRH 100-1260	100	37	960	1260	33.4	1260	32	1240	31	1150	30.4	970	30	770	29.7	663	29.4	5.0
TRH 100-1600	100	45	960	1450	40.5	1620	39.5	1620	38.5	1540	36.5	1280	34.5	1030	34	867	34	5.4
TRH 100-2000	150	75	730	1940	58	2050	55	2080	52	2000	50	1620	48	1380	46	1199	45	9
TRH 150-2600	150	90	730	2350	70	2620	68	2600	65	2410	62	2050	59	1750	57	1480	55.9	10
TRH 150-3100	150	110	730	3000	85	3150	79	3180	74	3080	70	2650	66	2160	65	1700	64.7	12

PERFORMANCE OF PUMPS SERIES TRS

ABSOLUTE PRESSURE			mbar	880		746		613		480		347		213		147		Average service liquid flow (1)
			torr	660		560		460		360		260		160		110		
VACUUM			mm Hg	100		200		300		400		500		600		650		
PUMP TYPE	Flange size	Motor Power KW	Girl/1' R.P.M	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h	KW	m^3/h
TRS 32-20	32	1.1	2900	18	0.4	19	0.45	20	0.55	20	0.6	18	0.7	13	0.75	7	0.75	0.3
TRS 32-50	32	1.5	2900	42	0.7	45	0.8	46	1	45	1.1	40	1.2	28	1.2	10	1.3	0.32
TRS 40-55	40	2.2	1450	54	0.9	54	1	54	1.3	52	1.4	49	1.5	42	1.5	32	1.5	0.5
TRS 40-80	40	3	1450	80	1.2	80	1.5	80	1.8	80	1.9	79	2	68	2.1	50	2.1	0.55
TRS 40-100	40	3	1450	100	1.8	100	2.2	100	2.4	100	2.5	98	2.7	85	2.9	65	2.9	0.65
TRS 40-150	40	4	1450	144	1.9	144	2.3	144	2.7	144	3	134	3.3	105	3.4	65	3.3	0.72
TRS 50-220	50	5.5	1450	220	3.1	220	3.8	220	4.3	220	4.7	210	4.9	165	5	115	5	1
TRS 100-550	100	15	1450	510	8.4	520	9.6	540	10.7	550	11.7	530	12.8	475	13.7	425	13.8	1.8
TRS 100-700	100	18.5	1450	690	13.8	705	14.8	730	16	735	16.9	705	17	610	17	510	17	2
TRS 100-980	100	30	1450	980	19.9	980	22	980	24	975	24	935	25	720	26	-	-	5
TRS 125-1250	125	37	960	1250	26	1250	28	1250	29	1250	30	1200	31	1120	32	-	-	4
TRS 125-1550	125	45	960	1550	35	1550	37	1550	38	1550	39	1500	40	1320	40	-	-	4.4
TRS 200-1950	200	75	730	1950	37	1950	42	1950	47	1940	50	1900	54	1710	56	-	-	10
TRS 200-2500	200	75	730	2500	46	2500	52	2500	59	2500	63	2460	66	2210	70	-	-	12
TRS 200-3100	200	110	730	3100	65	3100	70	3100	74	3100	77	2900	81	2550	85	-	-	14

This data represents average values for pumps in standard and all iron materials of construction (F, RX, RA, A3) discharging against atmospheric pressure at sea level (1013 mbar).

All stainless steel (A3) pumps have 10% less capacity. Capacity in m^3/h subject to 10% tolerance handling dry air at 20 °C and using 15 °C water as service liquid. When handling 100% saturated air capacity increases substantially.

#267, Kilpauk Garden Road, Chennai, Tamil Nadu - 600 010 (India)
www.toshniwalvacuumpumps.com