travaini pumps

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TBH • TBA

MULTI-STAGE SELF-PRIMING CENTRIFUGAL PUMPS
Capacity to 370 USGPM (84 m³/h)
Total head to 1100 Feet (335 meter)

ISO 9001

TBH

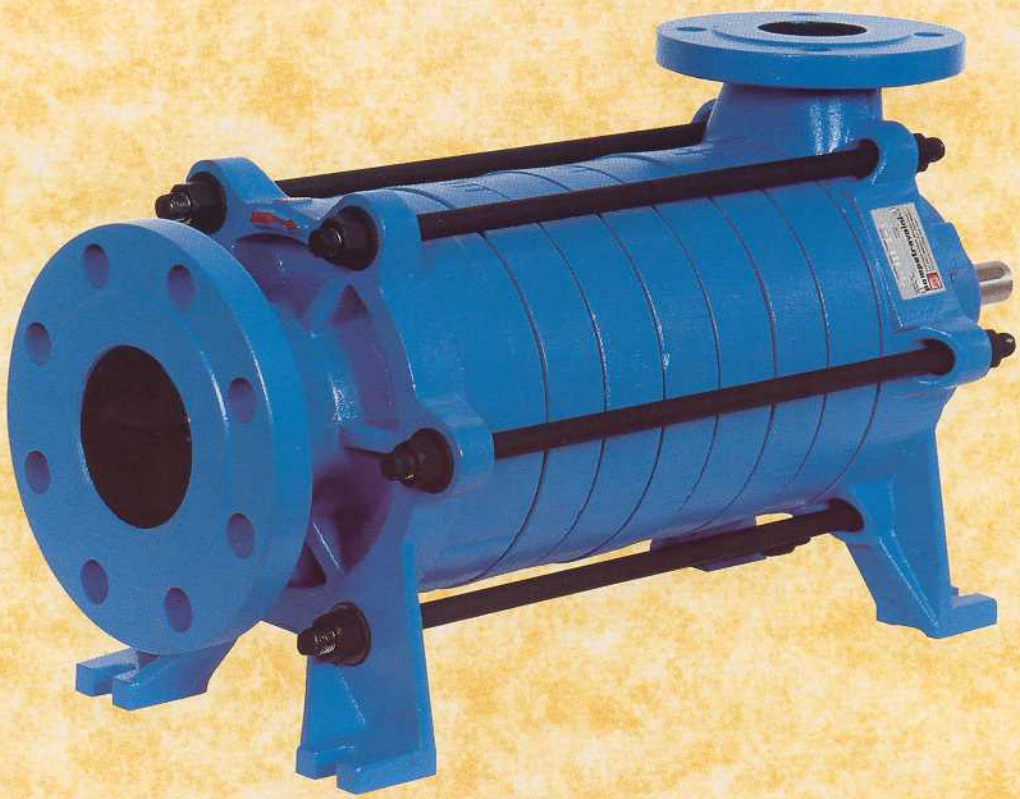
- Multistage self-priming centrifugal pumps with horizontal mounting, top suction and discharge flanges.
- Capable of handling mixtures of gas and clean and not abrasive liquids.
- Low capacity - high head.
- Suction lift to 28 Feet (8,5 m.w.c.)
- Low operating speed for extended life, low vibration, low noise level and maximum reliability.
- Impellers are individually hydraulically balanced thus end thrust forces to bearings are eliminated.
- Mechanical seals are standard and unified to DIN 24960.
- Optional double mechanical seals back to back or tandem.
- Cooled or heated seal housing are available.
- Reduced number of components is achieved by design innovation.
- Choice of motor mounting, including close-coupled through flexible coupling to flanged motor, to HP 30 (22 kW).
- Variety of materials is available to meet specific requirements.
- Capacities to 370 USGPM (84 m^3/h).
- Heads to 1050 Feet (320 meter).

APPLICATIONS

- Pumps series TBH and TBA are suitable to handle clean liquids, corrosives, hot or cold in the chemical, petro-chemical, pharmaceutical, food industries, etc.
- Removal of condensates and distilled liquids.
- Solvents and liquified gases applications.
- Boiler feed applications.
- Removal or liquid from processes under vacuum.
- Filling stations and transfer of LPG and liquefied gases.
- Fire systems and autoclaves.
- Potable and sanitary systems in the naval industry.
- Spray washing installations.

TBA

These pumps derive from the TBH series with an additional centrifugal stage at the suction side.
Pumps TBA have extremely LOW NPSH requirements and are particularly suitable for handling boiling liquids and other difficult applications.
This design is especially suited to handle liquids with entrained gases and liquified gases such as LPG.
TBA series have performances, design and duty characteristics as the TBH series.
Pump components are interchangeable thus reducing the need to stock spare parts for both series.
Capacities to 185 USGPM (42 m^3/h).
Heads to 1100 Feet (335 meter).



CONSTRUCTION

The self-priming pumps series TBH and TBA utilize the lateral channel principle. The open, "star" type impeller is hydraulically balanced, enclosed between the suction and discharge port plates to form the pumping stage.
Stages are mounted in series to give proportional higher discharge pressures with constant capacities.

MODELS, MATERIALS AND LIMITATIONS

EXAMPLE OF MODEL DESIGNATION

T B H 40 3 A / 1 - C / A3 - M / T - V - Z ...

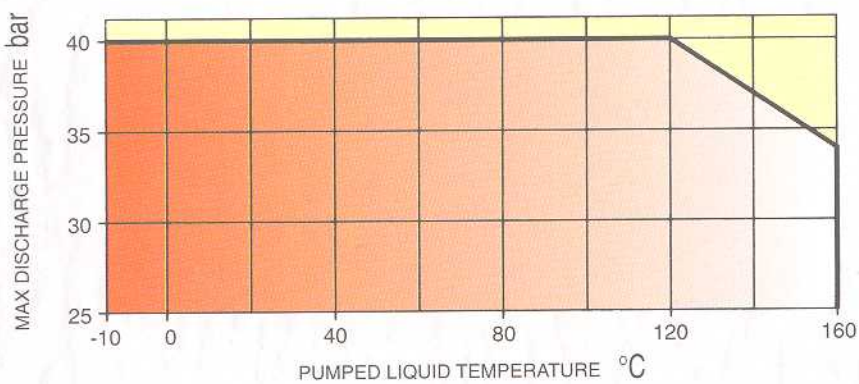
- **T** — TRAVAINI construction
- **B** — Self-priming multistage centrifugal pumps
- **H** — Type of construction
- **40** — Pump size
- **3** — Number of stages
- **A** — Modification of hydraulics
- **1** — Construction modifications
- **C** — Type of shaft seal (see pag. 10 & 11)
- **A3** — Materials of construction (see table)
- **M** — Close coupled construction with lantern (on request)
- **T - V - Z ...** — Special constructions

STANDARD MATERIALS OF CONSTRUCTION

VDMA N°	Description	GH	RA	A3	B2	GP
106	Suction casing	Ductile iron			Bronze	Ductile iron
107	Discharge casing					
109 114 149	Port plate and diffuser	Cast iron				Cast iron
210	Shaft	Stainless steel AISI 420	Stainless steel AISI 316 ASTM-CF8M			Stainless steel AISI 420
147	Manifold	Carbon steel				Carbon steel
230	Impeller	Brass			Bronze	Brass
310.1	Element bush	—		Carbon	—	Bronze
357	Bearing and mechanical seal housing	Cast iron				

SPECIAL MATERIALS ARE AVAILABLE UPON REQUEST - For further information please consult our Sales Office.

PRESSURE AND TEMPERATURE LIMITATIONS



The given values for maximum pressure are the sum of the suction pressure and the pump head at shut-off point.
These limits are not valid for **B2** construction.

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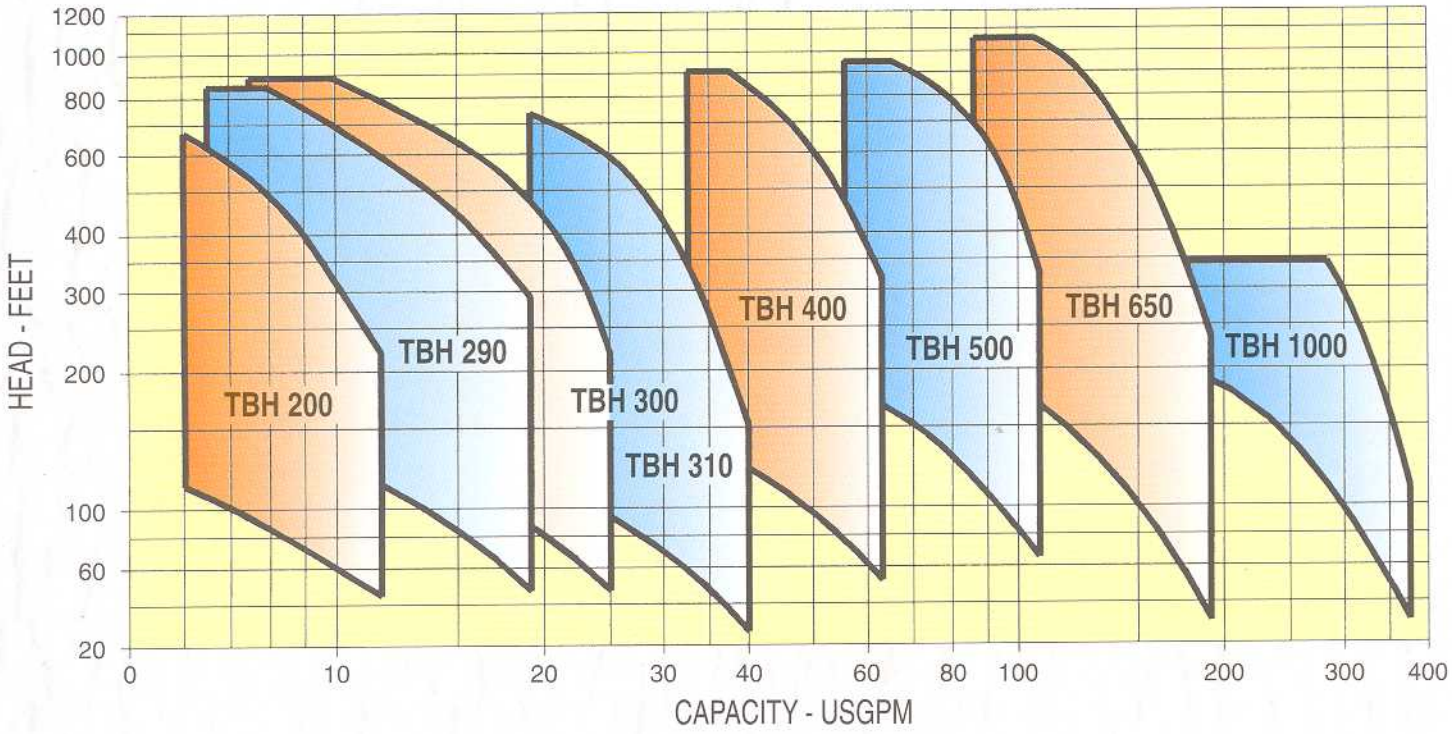
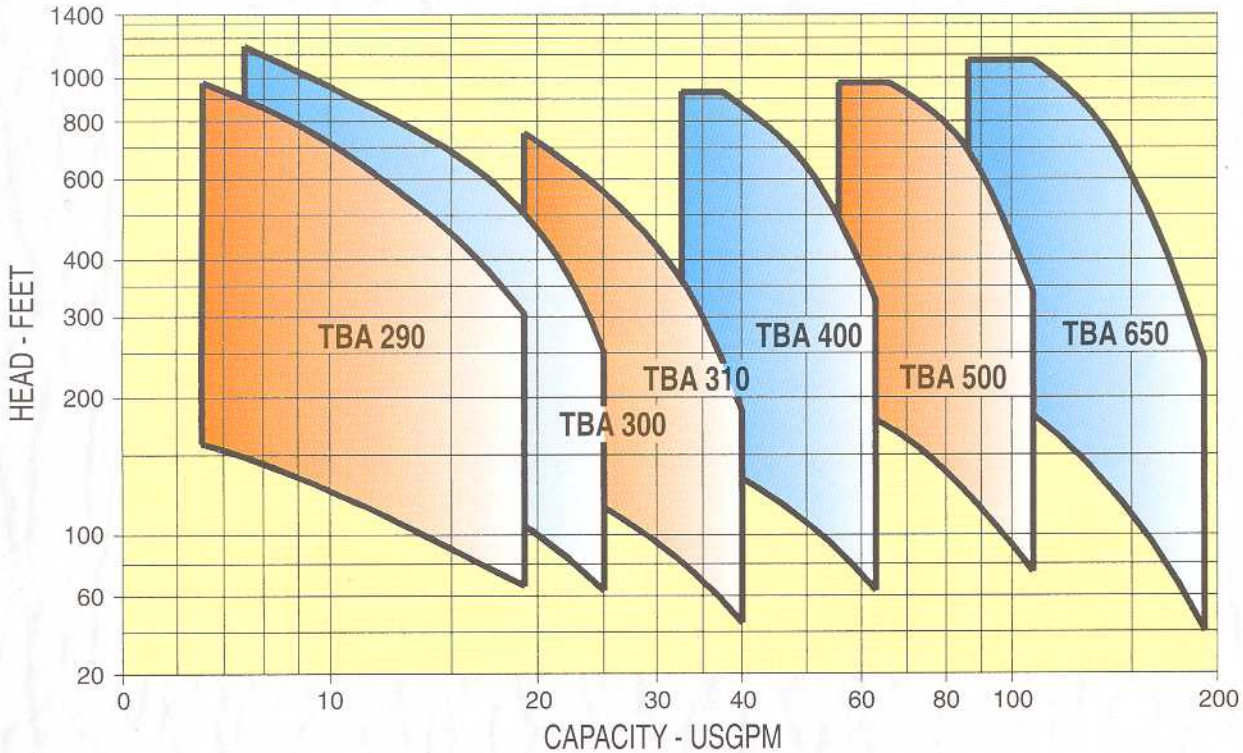
SERIES TBH



SERIES TBA



Information is for water at room temperature. For specific performance curves contact POMPETRAVAINI.

PERFORMANCE DATA AT 1750 RPM — SERIES TBH

CAPACITY Q	USGPM	2		4		6		8		10		12	
	m³/h	0.45		0.90		1.36		1.81		2.27		2.72	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 201	FLANGE SIZE IN/OUT 3/4"	115	1.1	99	1	82	0.9	72	0.8	59	0.7	43	0.6
TBH 202		227	2	197	1.8	164	1.6	137	1.4	108	1.2	78	1
TBH 203		339	3	296	2.7	246	2.4	201	2.1	156	1.8	113	1.4
TBH 204		451	3.9	394	3.5	328	3.1	266	2.7	205	2.3	148	1.8
TBH 205		563	4.8	492	4.3	410	3.8	331	3.3	254	2.9	184	2.2
TBH 206		675	5.8	590	5.1	492	4.5	396	3.9	303	3.4	219	2.6
NPSH	FT	7.9		7.9		8		8.9		10.9		13.1	

CAPACITY Q	USGPM	3		6		10		13		16		19	
	m³/h	0.68		1.36		2.27		2.95		3.63		4.32	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 291	FLANGE SIZE IN/OUT 1 1/4"	148	1.5	131	1.4	108	1.3	82	1.1	66	1	46	0.8
TBH 292		310	3.2	272	2.9	219	2.6	173	2.3	135	2.1	94	1.8
TBH 293		471	4.8	413	4.4	330	4	265	3.6	204	3.2	142	2.8
TBH 294		633	6.5	555	6	441	5.3	356	4.8	273	4.3	190	3.8
TBH 295		794	8.1	696	7.5	553	6.7	447	6.1	341	5.5	237	4.8
TBH 296		—	—	837	9	664	8	538	7.3	410	6.6	285	5.8
NPSH	FT	4.6		4.8		5.5		6.1		6.6		7.2	

CAPACITY Q	USGPM	5		10		15		18		22		25	
	m³/h	1.14		2.27		3.41		4.10		5.00		5.70	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 301	FLANGE SIZE IN/OUT 1 1/4"	190	2.4	151	2	125	1.6	98	1.4	66	1.2	46	1
TBH 302		364	4.7	294	4	230	3.2	182	2.8	122	2.3	82	1.9
TBH 303		538	7	437	5.9	335	4.8	267	4.2	178	3.5	117	2.8
TBH 304		712	9.3	580	7.9	440	6.4	351	5.6	234	4.6	153	3.7
TBH 305		886	11.6	723	9.8	545	8.1	436	7.1	291	5.7	188	4.6
TBH 306		—	—	866	11.8	650	9.7	520	8.5	347	6.8	224	5.5
NPSH	FT	4.9		4.9		5.4		6.6		9.2		11.8	

CAPACITY Q	USGPM	19		23		27		32		36		40	
	m³/h	4.32		5.22		6.13		7.26		8.18		9.10	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 311	FLANGE SIZE IN/OUT 1 1/4"	118	2.4	98	2	82	1.6	62	1.4	43	1.1	26	0.8
TBH 312		239	4.6	202	4	167	3.3	116	2.8	84	2.2	50	1.6
TBH 313		361	6.8	306	5.9	253	5	171	4.1	124	3.2	75	2.4
TBH 314		482	9	410	7.9	338	6.7	225	5.5	165	4.3	99	3.2
TBH 315		603	11.2	515	9.9	423	8.5	280	6.8	206	5.4	124	4.1
TBH 316		725	13.4	619	11.9	508	10.2	334	8.2	247	6.5	148	4.9
NPSH	FT	7.5		8.2		9.8		13.8		17.7		21.7	

CAPACITY Q	USGPM	32		38		44		50		56		63	
	m³/h	7.27		8.63		10.00		11.35		12.71		14.30	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 401	FLANGE SIZE IN/OUT 1 1/2"	174	4.9	144	4.1	125	3.7	98	3	76	2.7	52	2.3
TBH 402		348	9.7	296	8.5	252	7.6	201	6.6	158	5.7	106	4.8
TBH 403		522	14.5	447	12.9	379	11.5	304	10.1	240	8.8	159	7.4
TBH 404		695	19.2	599	17.2	505	15.3	407	13.7	322	11.8	213	9.9
TBH 405		869	24	750	22	632	19.2	511	17.3	404	14.9	266	12.4
TBH 406		—	—	902	26	759	23	614	21	486	17.9	320	14.9
NPSH	FT	8.9		9.8		12.6		15.4		18		22	

CAPACITY Q	USGPM	55		65		75		85		95		105	
	m³/h	12.49		14.76		17.03		19.30		21.58		23.85	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 501	FLANGE SIZE IN/OUT 2"	203	10.9	190	9.5	164	8.8	141	8.2	121	6.8	66	6.1
TBH 502		382	19.7	347	17.6	303	16	257	14.6	212	12.4	118	10.4
TBH 503		561	28	504	26	442	23	372	21	302	18	171	14.6
TBH 504		740	37	660	34	580	30	488	27	393	24	223	18.9
TBH 505		919	46	817	42	719	38	604	34	483	29	276	23
TBH 506		—	—	974	50	858	45	720	40	574	35	328	27
NPSH	FT	10.8		11.8		13.5		15.7		19		23	

CAPACITY Q	USGPM	85		105		125		145		165		185	
	m³/h	19.30		23.85		28.39		32.93		37.48		42.02	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 651	FLANGE SIZE IN/OUT 2" 1/2"	207	19	184	16.3	144	13.6	118	12.9	75	10.9	30	9.5
TBH 652		408	35	357	30	288	26	225	23	149	19.2	72	16
TBH 653		609	51	530	45	433	38	332	34	222	28	113	22
TBH 654		809	66	704	59	577	51	439	44	296	36	155	29
TBH 655		1010	82	877	73	721	63	545	55	370	44	197	35
TBH 656		—	—	1050	87	866	76	652	65	444	52	239	41
NPSH	FT	10.5		13.1		13.8		18.4		22		25	

CAPACITY Q	USGPM	170		210		250		290		330		370	
	m³/h	38.61		47.70		56.78		65.87		74.95		84.04	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBH 1001	FLANGE SIZE IN = 4" OUT = 3"	207	38	184	33	144	27	118	26	75	22	30	19
TBH 1002		408	70	357	60	288	52	225	46	179	38	72	32
TBH 1003		—	—	—	—	—	—	332	68	222	56	113	44
NPSH	FT	10.5		13.1		13.8		18.4		22		25	

CAPACITY Q	USGPM	3		6		10		13		16		19	
	m³/h	0.68		1.36		2.27		2.95		3.63		4.32	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBA 291		164	1.9	141	1.8	128	1.6	105	1.5	82	1.4	66	1.3
TBA 292	FLANGE SIZE	327	3.6	282	3.3	240	2.9	195	2.7	151	2.5	113	2.3
TBA 293	IN = 2 1/2"	489	5.2	423	4.8	351	4.3	284	4	220	3.6	160	3.2
TBA 294	OUT = 1 1/4"	652	6.9	564	6.3	463	5.6	374	5.2	289	4.7	207	4.2
TBA 925		814	8.5	706	7.9	574	7	463	6.4	357	5.8	253	5.1
TBA 296		977	10.2	847	9.4	686	8.3	553	7.6	426	6.9	300	6.1
NPSH	FT	3.5		3.6		3.9		4		4.2		4.3	
NPSH Δ	FT	0.56		0.56		0.56		0.56		0.56		0.56	

CAPACITY Q	USGPM		5		10		15		18		22		25	
	m³/h		1.14		2.27		3.41		4.10		5.00		5.70	
PUMP MODEL			FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBA 301			203	2.9	170	2.7	131	2.3	115	1.9	79	1.6	62	1.4
TBA 302	FLANGE SIZE		386	5.2	314	4.6	242	3.9	202	3.3	139	2.7	99	2.3
TBA 303	IN = 2 1/2"		568	7.4	459	6.5	352	5.4	288	4.6	199	3.8	136	3.2
TBA 304	OUT = 1 1/4"		751	9.7	603	8.4	463	7	375	6	259	4.9	173	4.1
TBA 305			934	12	748	10.2	574	8.5	462	7.3	319	5.9	211	5.1
TBA 306			1116	14.2	892	12.1	685	10.1	549	8.7	379	7	248	6
NPSH	FT		3.6		4		4.5		4.7		4.9		5.1	
NPSH Δ	FT		0.66		0.66		0.66		0.66		0.66		0.66	

CAPACITY Q	USGPM					19		23		27		32		36		40	
	m³/h					4.32		5.22		6.13		7.26		8.18		9.10	
PUMP MODEL						FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBA 311						131	2.9	118	2.6	98	2.3	75	1.9	66	1.6	46	1.4
TBA 312	FLANGE SIZE					250	5.1	220	4.5	181	4	137	3.2	109	2.7	73	2.2
TBA 313	IN = 2 1/2"					369	7.2	322	6.4	265	5.6	199	4.6	152	3.8	100	3.1
TBA 314	OUT = 1 1/4"					488	9.4	424	8.3	348	7.3	261	5.9	195	4.9	127	3.9
TBA 315						608	11.6	527	10.3	432	8.9	323	7.3	238	5.9	155	4.7
TBA 316						727	13.7	629	12.2	515	10.6	385	8.6	281	7	182	5.5
NPSH	FT					4.3		4.4		4.6		5.1		5.8		7.2	
NPSH Δ	FT					0.79		0.79		0.79		0.79		0.79		0.79	

CAPACITY Q	USGPM	32		38		44		50		56		63	
	m³/h	7.27		8.63		10.00		11.35		12.71		14.30	
PUMP MODEL		FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBA 401		197	5.4	174	5	144	4.4	118	3.7	92	3.1	62	2.7
TBA 402	FLANGE SIZE	372	10.3	323	9.4	272	8.3	222	7.3	173	6.2	115	5.3
TBA 403	IN = 3"	548	15.2	472	13.8	400	12.3	325	10.9	253	9.4	168	7.9
TBA 404	OUT = 1 1/2"	724	20	621	18.2	528	16.2	429	14.5	334	12.5	221	10.5
TBA 405		899	25	770	23	656	20	532	18.2	414	15.6	274	13.2
TBA 406		—	—	919	27	784	24	636	22	495	18.7	327	15.8
NPSH	FT	3.6		3.8		3.9		4.2		4.5		4.9	
NPSH Δ	FT	1		1.2		1.4		1.6		1.8		2	

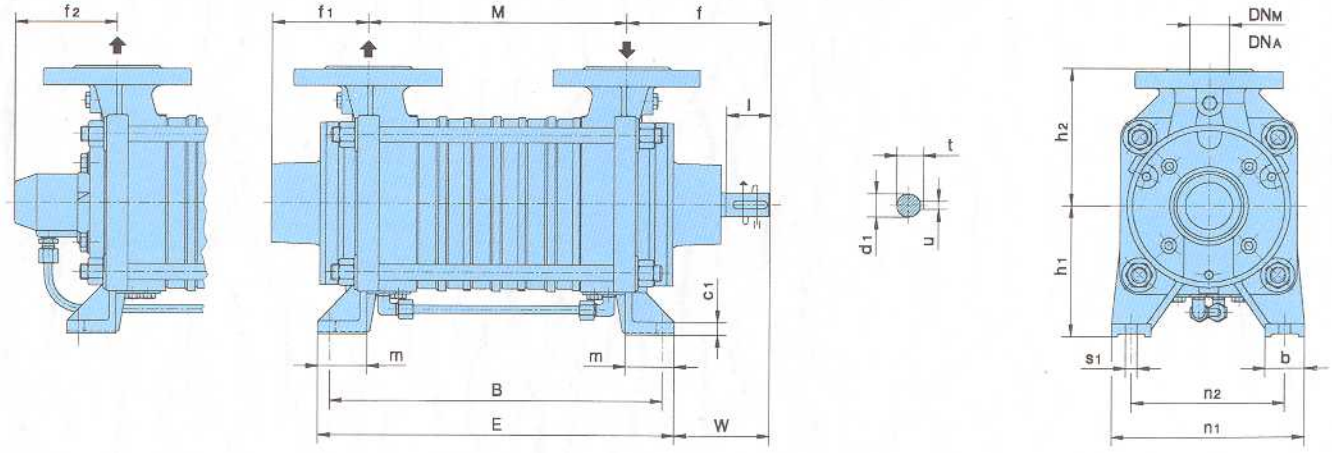
CAPACITY Q	USGPM				55		65		75		85		95		105	
	m³/h				12.49		14.76		17.03		19.30		21.58		23.85	
PUMP MODEL					FT	HP	FT	HP	H	kW	H	kW	H	kW	H	kW
TBA 501					236	11.6	210	10.9	190	10.2	157	9.5	128	8.2	75	6.8
TBA 502	FLANGE SIZE				413	20	365	18.9	326	17.3	274	15.9	216	13.6	128	10.5
TBA 503	IN = 4"				591	29	520	27	462	24	390	22	303	19	180	14.3
TBA 504	OUT = 2"				768	38	674	35	598	32	507	29	391	24	233	18
TBA 505					945	47	829	43	735	39	624	35	478	30	285	22
TBA 506					—	—	984	51	871	46	741	41	566	35	338	26
NPSH	FT				3.8		3.9		4.2		4.5		4.9		5.2	
NPSH Δ	FT				1.9		2.2		2.5		2.7		3		3.3	

CAPACITY Q	USGPM							85		105		125		145		165		185	
	m³/h							19.30		23.85		28.39		32.93		37.48		42.02	
PUMP MODEL								FT	HP	FT	HP	FT	HP	FT	HP	FT	HP	FT	HP
TBA 651								249	20	220	18.4	187	16.3	148	14.3	98	12.9	39	10.9
TBA 652	FLANGE SIZE							449	36	393	32	328	28	256	25	163	20	80	17.3
TBA 653	IN = 4"							650	52	565	46	469	40	363	35	227	28	122	24
TBA 654	OUT = 2 1/2"							850	67	738	60	610	52	471	45	292	35	163	30
TBA 655								1050	83	910	74	751	64	579	56	357	43	204	37
TBA 656								—	—	1083	88	892	76	687	66	422	50	245	43
NPSH	FT							4.7		4.7		4.8		5		5.5		5.9	
NPSH Δ	FT							1.6		1.6		1.6		1.6		1.6		1.6	

This data refers to water at room temperature: capacity (Q) and head (H) subject to 5% tolerance, absorbed power subject to 10% tolerance.
All Stainless steel pumps have 10% less head.

NPSHΔ = Minimum positive head required for liquids in boiling conditions.

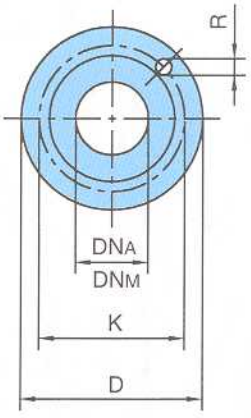
BARESHAFT construction



MODEL	DNA	DNM	M	B	h1	h2	E	f	f1	f2	W	b	c1	m	n1	n2	s1	d1	l	t	u	Weight
TBH 201			4.25	6.22			7.16															31.96
			108	*158*			*182*															*14.5*
TBH 202			5.59	7.55			8.50															35.27
			142	*192*			*216*															*16*
TBH 203			6.92	8.89			9.84															38.58
	3/4"	3/4"	*176*	*226*	3.93	3.93	*250*	4.27	2.79	3.18	2.81		0.43	1.57	5.51	4.13		0.55	1.37	0.62	0.19	*17.5*
TBH 204	*20*	*20*	8.26	10.23	*100*	*100*	11.18	*108.5*	*71*	*81*	*71.5*		*11*	*40*	*140*	*105*		*14*	*35*	*16*	*5*	35.27
			210	*260*			*284*															*19*
TBH 205			9.60	11.57			12.51															45.19
			244	*294*			*318*															*20.5*
TBH 206			10.94	12.91			13.85					1.37										48.50
			278	*328*			*352*					*35*										*22*
TBH 291-301-311			5.66	8.03			8.97															49.60
			144	*204*			*228*															*22.5*
TBH 292-302-312			7.25	9.60			10.55															57.31
			184	*244*			*268*															*26*
TBH 293-303-313			8.81	11.18			12.12															65.03
	1 1/4"	1 1/4"	*224*	*284*	4.40	5.31	*308*	4.44	2.75	2.99	2.79		0.47	1.77	6.69	5.31	0.47	0.74	1.57	0.84	0.23	*29.5*
TBH 294-304-314	*32*	*32*	10.39	12.75	*112*	*135*	13.70	*113*	*70*	*76*	*71*		*12*	*45*	*170*	*135*	*12*	*19*	*40*	*21.5*	*6*	72.75
			264	*324*			*348*															*33*
TBH 295-305-315			11.96	14.33			15.27															80.46
			304	*364*			*388*															*36.5*
TBH 296-306-316			13.54	15.90			16.85															88.18
			344	*404*			*428*															*40*
TBH 401			5.98	8.97			9.92															66.13
			152	*228*			*252*															*30*
TBH 402			8.14	11.14			12.08															77.16
			207	*283*			*307*															*35*
TBH 403			10.31	13.30			14.25															88.18
	1 1/2"	1 1/2"	*262*	*338*	5.19	5.51	*362*				3.97	1.57	051	1.96	7.67	6.10						*40*
TBH 404	*40*	*40*	12.48	15.47	*132*	*140*	16.41				*101*	*40*	*13*	*50*	*195*	*155*						99.20
			317	*393*			*417*															*45*
TBH 405			14.64	17.63			18.58															110.22
			372	*448*			*472*															*50*
TBH 406			16.81	19.80			20.74															121.25
			427	*503*			*527*	5.94	3.81	4.01								094	1.77	1.06		*55*
TBH 501			6.73	9.88			11.06	*151*	*97*	*102*								*24*	*45*	*27*		85.97
			171	*251*			*281*															*39*
TBH 502			9.68	12.83			14.01															108.02
			246	*326*			*356*															*49*
TBH 503			12.63	15.78			16.96															130.07
	2"	2"	*321*	*401*	6.29	6.49	*431*				3.77	1.77	0.59		8.46	6.69					0.31	*59*
TBH 504	*50*	*50*	15.59	18.74	*160*	*165*	19.92				*96*	*45*	*15*		*215*	*170*					*8*	152.11
			396	*476*			*506*															*69*
TBH 505			18.54	21.69			22.87															174.16
			471	*551*			*581*															*79*
TBH 506			21.49	24.64			25.82															196.20
			546	*626*			*656*							2.16			0.55					*89*
TBH 651			7.48	10.62			11.81							*55*			*14*					114.63
			190	*270*			*300*															*52*
TBH 652			11.02	14.17			15.35															147.70
			280	*360*			*390*															*67*
TBH 653			14.56	17.71			18.89															180.77
	2 1/2"	2 1/2"	*370*	*450*	7.08	7.08	*480*	7.24	4.60	4.72	5.07	1.96	0.62		9.64	7.67		1.10	2.55	1.22		*82*
TBH 654	*65*	*65*	18.11	21.25	*180*	*180*	22.44	*184*	*117*	*120*	*129*	*50*	*16*		*245*	*195*		*28*	*65*	*31*		213.84
			460	*540*			*570*															*97*
TBH 655			21.65	24.80			28.98															246.91
			550	*630*			*660*															*112*
TBH 656			25.19	28.34			29.52															279.98
			640	*720*			*750*															*127*

FLANGE DIMENSIONS

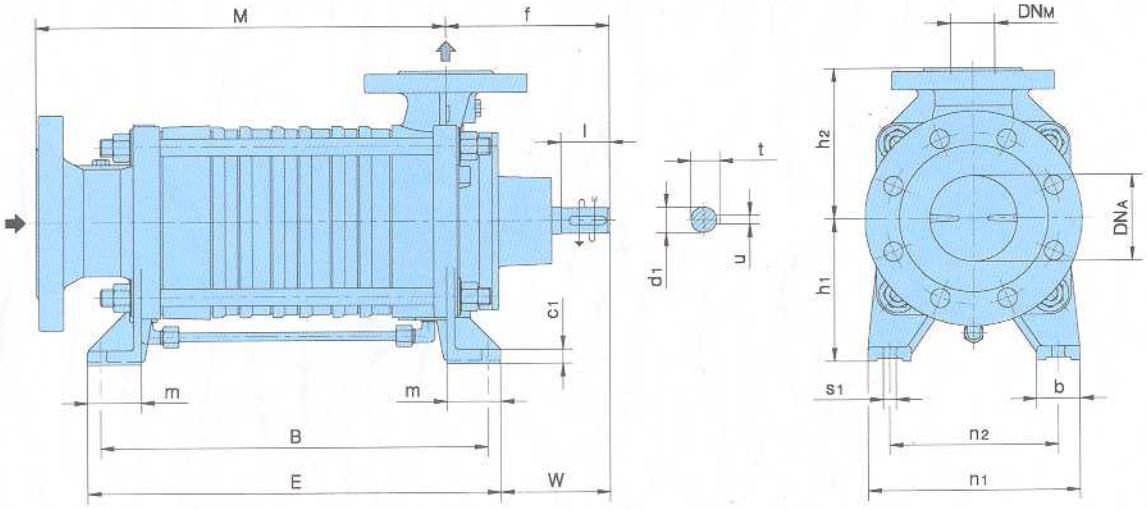
DNA DNM	D	K	R	Holes Q.ty
20	4.13 *105*	2.91 *74*	0.55 *14*	4
32	5.51 *140*	3.93 *100*	0.70 *18*	
40	5.90 *150*	4.33 *110*		
50	6.49 *165*	4.92 *125*		
65	7.28 *185*	5.70 *145*		



FLANGES:
Dimensions to UNI 2223-2229 NP 40 standards

Schematic drawing. Dimensions in **inches** and *mm* with tolerances to **EN 735-1995** standards. Weights in **lbs.** and *kgs*, referred to pump in cast iron, not certified.

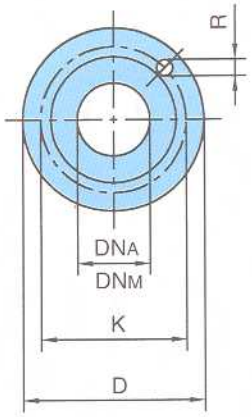
BARESHAFT construction



MODEL	DNA	DNM	M	B	h1	h2	E	f	W	b	c1	m	n1	n2	s1	d1	l	t	u	Weight
TBA 291-301-311			8.97 *228*	8.22 *209*			9.17 *233*													52.91 *24*
TBA 292-302-312			10.55 *268*	9.80 *249*			10.74 *273*													60.62 *27.5*
TBA 293-303-313	2 1/2"	1 1/4"	12.12 *308*	11.37 *289*	4.40	5.31	12.32 *313*	4.44	2.79	1.37	0.47	1.77	6.69	5.31		0.74	1.57	0.84	0.23	68.34 *31*
TBA 294-304-314	*65*	*32*	13.70 *348*	12.95 *329*	*112*	*135*	13.89 *353*	*113*	*71*	*35*	*12*	*45*	*170*	*135*		*19*	*40*	*21.5*	*6*	76.05 *34.5*
TBA 295-305-315			15.27 *388*	14.52 *369*			15.47 *393*													83.77 *38*
TBA 296-306-316			16.85 *428*	16.10 *409*			17.04 *433*								0.47 *12*					91.49 *41.5*
TBA 401			10.55 *268*	9.72 *247*			10.66 *271*													81.56 *37*
TBA 402			12.71 *323*	11.88 *302*			12.83 *326*													92.59 *42*
TBA 403	3"	1 1/2"	14.88 *378*	14.05 *357*	5.19	5.51	14.99 *381*	5.94	3.97	1.57	0.51	1.96	7.67	6.10						103.61 *47*
TBA 404	*80*	*40*	17.04 *433*	16.22 *412*	*132*	*140*	17.16 *436*	*151*	*101*	*40*	*13*	*50*	*195*	*155*						114.63 *52*
TBA 405			19.21 *488*	18.38 *467*			19.33 *491*													125.66 *57*
TBA 406			21.37 *543*	20.55 *522*			21.49 *546*									0.94 *24*	1.77 *45*	1.06 *27*		136.68 *62*
TBA 501			12.00 *305*	11.29 *287*			12.48 *317*													110.22 *50*
TBA 502			14.96 *380*	14.25 *362*			15.43 *392*													132.27 *60*
TBA 503		2"	17.91 *455*	17.20 *437*	6.29	6.49	18.38 *467*	6.02	3.85	1.77	0.59		8.46	6.69					0.31	154.32 *70*
TBA 504		*50*	20.86 *530*	20.15 *512*	*160*	*165*	21.33 *542*	*153*	*98*	*45*	*15*		*215*	*170*					*8*	176.36 *80*
TBA 505			23.81 *605*	23.11 *587*			24.29 *617*													198.41 *90*
TBA 506	4"		26.77 *680*	26.06 *662*			27.24 *692*					2.16			0.55					220.45 *100*
TBA 651	*100*		13.30 *338*	12.24 *311*			13.42 *341*					*55*			*14*					143.29 *65*
TBA 652			16.85 *428*	15.78 *401*			16.96 *431*													176.36 *80*
TBA 653		2 1/2"	20.39 *518*	19.33 *491*	7.08	7.08	20.51 *521*	7.24	5.07	1.96	0.62		9.64	7.67		1.10	2.55	1.22		209.43 *95*
TBA 654		*65*	23.93 *608*	22.87 *581*	*180*	*180*	24.05 *611*	*184*	*129*	*50*	*16*		*245*	*195*		*28*	*65*	*31*		242.50 *110*
TBA 655			27.48 *698*	26.41 *671*			27.59 *701*													275.57 *125*
TBA 656			31.02 *788*	29.96 *761*			31.14 *791*													308.64 *140*

FLANGE DIMENSIONS

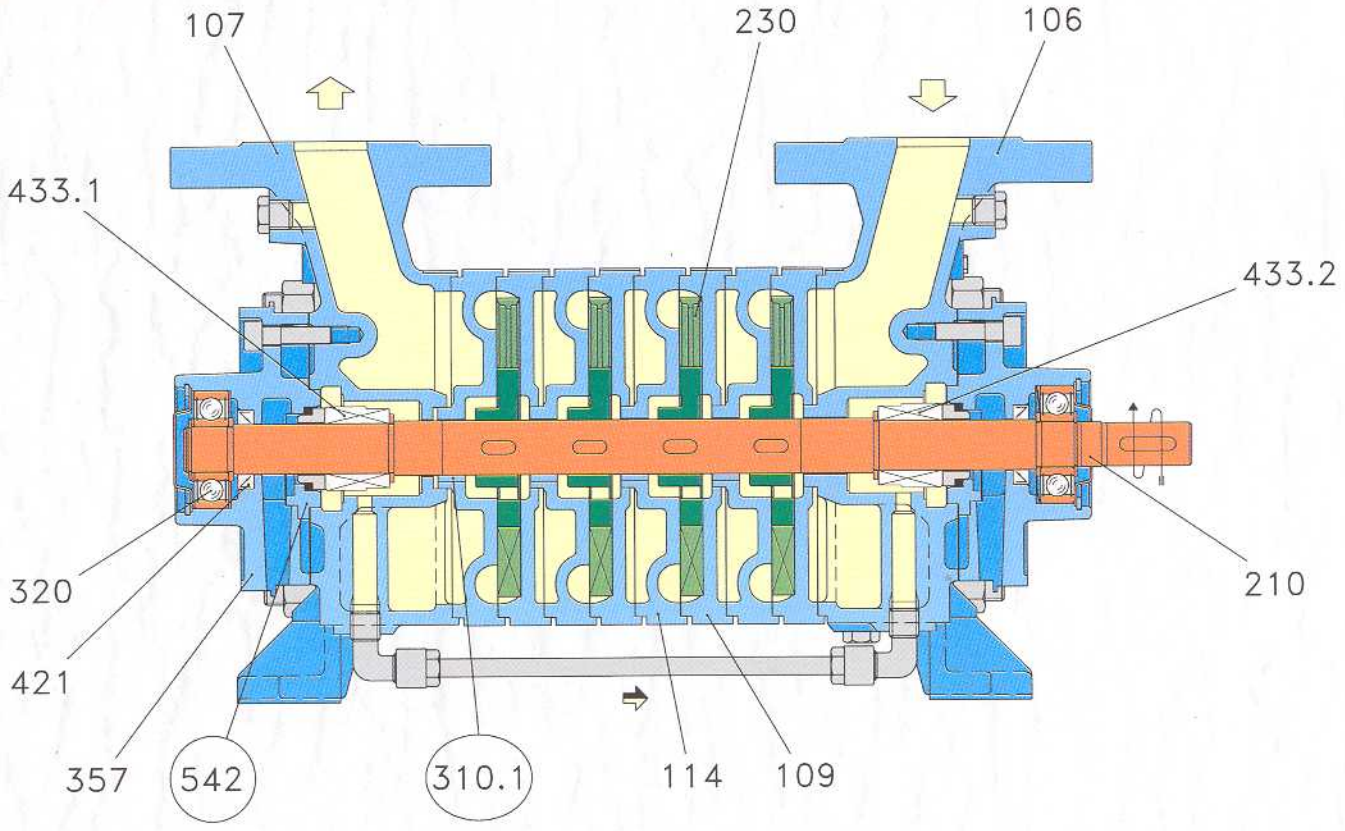
DNA DNM	D	K	R	Holes Q.ty
32	5.51 *140*	3.93 *100*	0.70 *18*	4
40	5.90 *150*	4.33 *110*		
50	6.49 *165*	4.92 *125*		
65	7.28 *185*	5.70 *145*		8
80	7.87 *200*	6.29 *160*		
100	8.66 *220*	7.08 *180*	22 *0.86*	



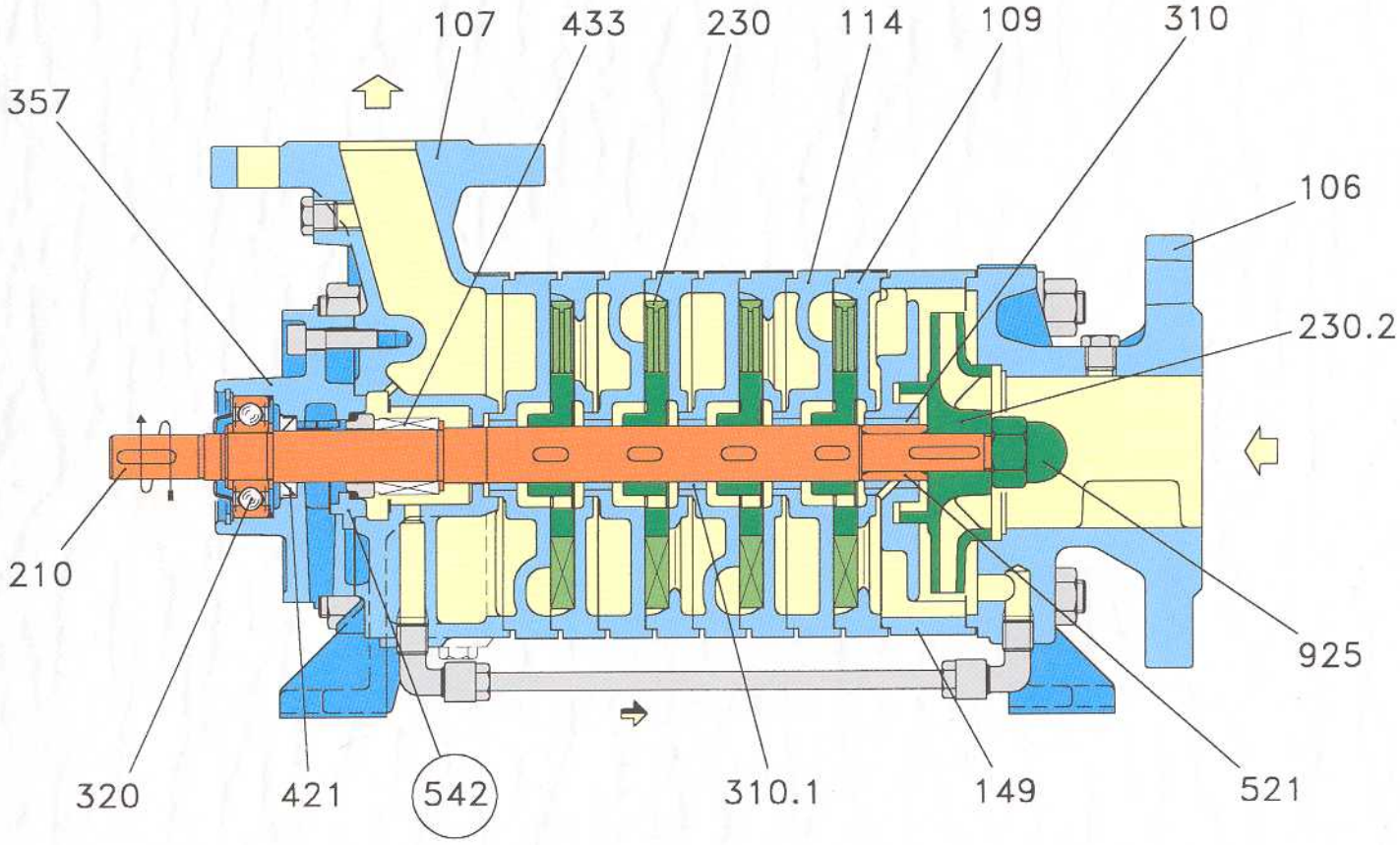
FLANGES:
Dimensions to UNI 2223-2229 NP 40 standards

Schematic drawing. Dimensions in **inches** and *mm* with tolerances to **EN 735-1995** standards.
Weights in **lbs.** and *kgs*, referred to pump in cast iron, not certified.

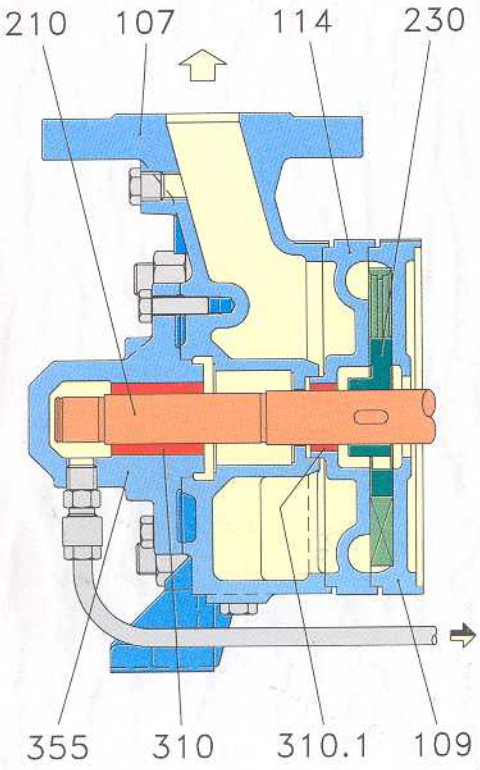
TYPICAL CROSS SECTION



Pump series TBH with 2 single mechanical seals (design.../C)



Pump series TBA with single mechanical seal (design.../R)



A3 construction only

Detail of pump series TBH with sleeve bearing and element bushing (design .../R/GP)

MAIN COMPONENTS

ITEM No	DESCRIPTION
106	Suction casing
107	Discharge casing
109	Suction element
114	Discharge element
149	Diffuser
210	Shaft
230	Open impeller
230.2	Centrifugal impeller
310	Sleeve bearing
310.1	Element bushing
320	Ball bearing
355	Sleeve bearing housing
357	Bearing and mech. seal housing
421	Radial seal ring
433...	Mechanical seal
521	Sleeve
542	Seal insert (A3 construction only)
925	Impeller locking nut

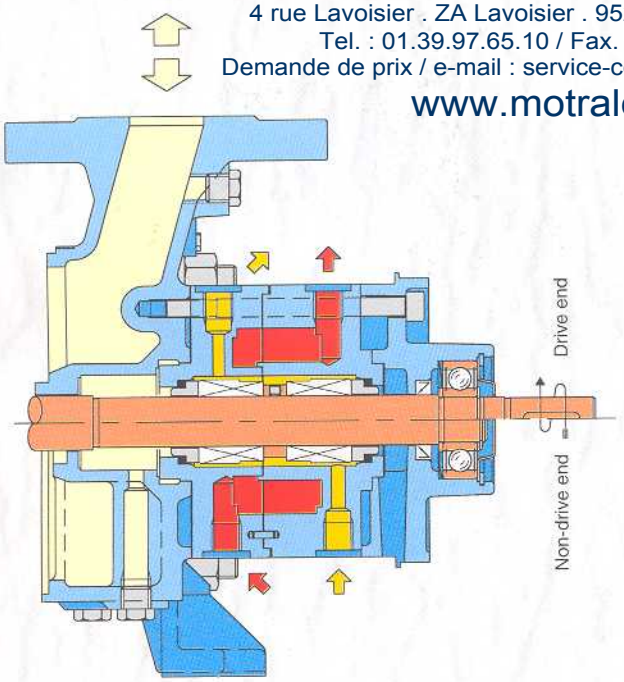
CONSTRUCTION WITH COOLING OR HEATING CHAMBERS

Cooling or heating the seal area with liquids from an external source

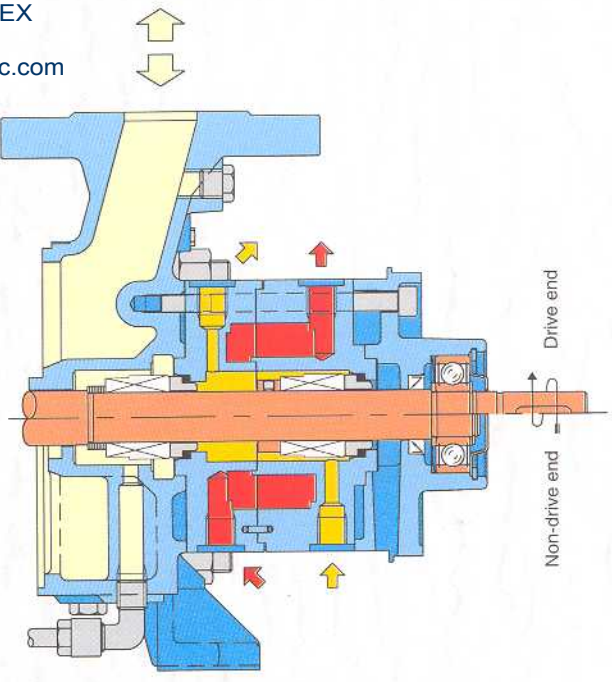
External mechanical seal flushing with liquids from an external source

Pumping fluid

motralec
4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48
Demande de prix / e-mail : service-commercial@motralec.com
www.motralec.com



Double mechanical seals construction, back to back (design .../CC...T or .../RR...T)



Double mechanical seals construction, tandem (design .../C2...T or .../R2...T)