

# پیشگامان صنعت و ایمنی پرگاس

PISHGAMAN SANAAT & IMENI PERGAS



## طراح، مشاور و مجری سیستم‌های ایمنی و تاسیساتی

دارای صلاحیت سازمان آتش‌نشانی تهران

اخذ تاییدیه آتش‌نشانی

تهران . خیابان سعدی شمالی . خیابان



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۷۷۶۸۶۹۶۶



۷۷۶۷۸۶۵۹



## مشاوره و طراحی

بوستر پمپ های آبرسانی  
بوستر پمپ های آتش نشانی  
در کلاس های S3-S2-S1  
تابلوفرمان اگزاست و تخلیه دود



## تولید

بوستر پمپ های آبرسانی  
بوستر پمپ های آتش نشانی  
در کلاس های S3-S2-S1  
تابلوفرمان اگزاست و تخلیه دود



## آموزش

### تاسیسات مکانیکی

نرم افزار فنی و مهندسی  
استخر . سونا . جکوزی  
سیستم های پمپاژ  
سرمایش و گرمایش موتورخانه



### ایمینی

سیستم های پمپاژ  
اطفاء حریق  
اعلان حریق  
معماری  
تهویه و تخلیه دود



## اجرا

تاسیسات مکانیکی  
تاسیسات الکتریکی  
اطفا حریق و اعلام حریق  
تهویه و تخلیه دود



## فروش

تجهیزات اعلام حریق  
تجهیزات اطفاء حریق  
تاسیسات موتورخانه  
سیستم های پمپاژ



**PERGAS**  
PISHGAMAN SANAAT & IMENI

## Vertical Multi-Stage Centrifugal Pumps



BL(T)

**H**igh-efficiency standard motor, Japan NSK bearings and cold-rolled 50ww800 silicon steel sheet made the pump high efficiency, low noise and maintenance-free. Totally enclosed shaft seal, IP55 protection grade, F class insulation grade, the special "double-lock" drive end bearing made the pump withstand higher inlet pressure.

**B**alanced & container-type shaft seal with all the parts assembled together, no axial rotating to prevent the shaft and rubber parts from wearing, with the characteristics of rapid changing, easy installation and safe operation. Dynamic sealing is made of cemented carbide materials and the static sealing is fluorine rubber material which make the mechanical seal to be high temperature resistance, long service life, easy changing and other significant characteristics.

**B**eing produced by the most advanced international laser welding technology,, no eliminate welding, ensure the high intensity and efficiency. The processing technology: precision casting, CNC lathe, CNC machining center, the modern advanced technology such as the laser welding technique and processing equipment.

**T**he built-in floating sealing ring of the pump cavity body could minimize the internal leakage produced by the differential pressure and prevent the energy consumption when liquid leaking back to the pump cavity body.

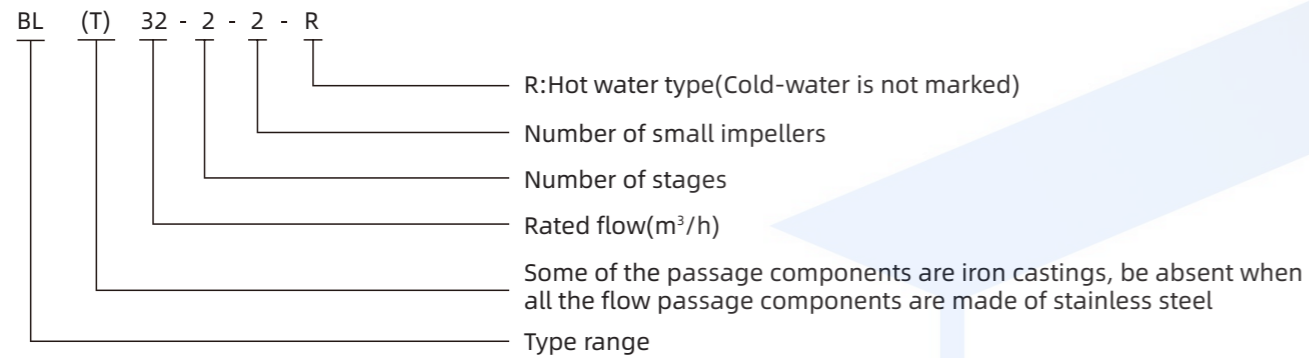
**T**he pump core parts are designed to be multilevel interlocking, fastening nut locked, component system interlock assembly industry, to minimize the gap between the impeller per level, improve the efficiency of the impeller water conservancy, and ensure the stability, reliability and efficiency of the pump core components.

**C**old extrusion spline shaft with good surface quality, high machining accuracy, at the same time improve the comprehensive mechanical properties of the shaft and the reliability of the pump



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**Model Instruction**



**Overview Of The Product**

BL(T) series stainless steel multi-stage centrifugal pump (afterwards called pump)boasts characters of high efficiency, low noise, steady operation, etc.The pump set adopts the non-self-priming vertical multi-stage structure, which makes a compact whole,its installation easy, its operation and maintenance convenient.

**Application Limits**

- ⊙ Medium temperature: normal type:0°C ~68°C hot water type:0°C ~120°C,
- ⊙ Ambient temperature:+40°C ,
- ⊙ Max ambient pressure:1.0MPa,
- ⊙ Advisable to use motor of higher power in case that the density or viscosity of medium is above that of water.
- ⊙ pH: 5 to 8

**Application Limits**

	BL	BLT
<b>Water supply</b>		
Filtration and transfer at waterworks	●	●
Distribution from waterworks	●	●
Pressureboosting in mains	●	●
Pressure boosting in high-rise buildings,hotels,etc.	●	●
Pressure boosting for industrial water supply	●	●
<b>Industry</b>		
Pressure boosting	●	●
Process water systems	●	●
Washing and cleaning systems	●	●
Vehicle washing tunnels	●	●
Fire fighting systems	●	●
<b>Liquid transfer</b>		
Cooling and air-conditioning systems(refrigerants)	●	●
Boiler feed and condensate systems	●	●
Machine tools(cooling lubricants)	●	●
Aquafarming	●	●
<b>Transfer</b>		
Oil and alcohol	●	●
Glycol and coolants	●	●

	BL	BLT
<b>Water treatment</b>		
Ultra-filtration systems	●	○
Reverse osmosis systems	●	○
Softening, ionising, demineralizing systems	●	○
Distillation systems	●	○
Separators	●	○
Swimming baths	●	●
<b>Irrigation</b>		
Field irrigation(flooding)	●	●
Sprinkler irrigation	●	●
Drip-feed irrigation	●	●

**Certificate**

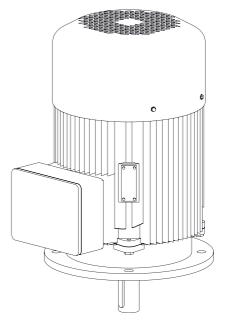


**Electric Motor**

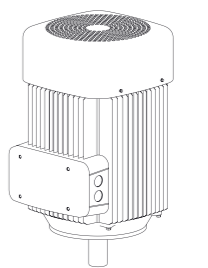
- ⊙ Full-enclosed and ventilating two-pole standard motor
- ⊙ Protection class: IP55
- ⊙ Insulation class: F
- ⊙ Standard voltage Single phase 220V-50Hz Three phase:220/380V-50Hz

**Energy Efficiency Standard (IEC60034)**

Power(kW)	Standard	Specific	motor structure
	Efficiency(2P, IE2)	Efficiency(2P,IE3)	
0.75	77.4	80.7	IMV18
1.1	79.6	82.7	
1.5	81.3	84.2	
2.2	83.2	85.9	
3	84.6	87.1	
4	85.8	88.1	
5.5	87	89.2	IMV1
7.5	88.1	90.1	
11	89.4	91.2	
15	90.3	91.9	
18.5	90.9	92.4	
22	91.3	92.7	
30	92	93.3	
37	92.5	93.7	
45	92.9	94	



IM V1

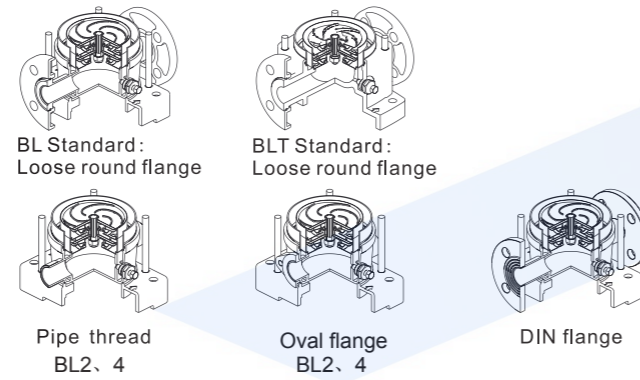


IM V18

**■ Pump material:**

Selection of pump connection depend on the rated pressure and pipe work. the pump offer a wide range of flexible connection such as:

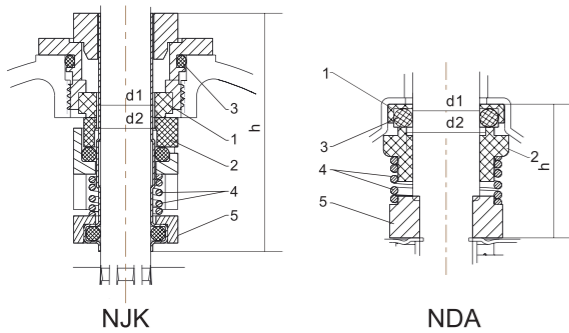
- Loose round flange
- Pipe thread
- Oval flange
- Round flange



**Maximum Work Pressure**

Model	Curve No.
BL(T)2,4	2
BL(T)8,12,16,20	3
BL(T)32-2-2~BL(T)32-7	1
BL(T)32-8-2~BL(T)32-12	4
BL(T)32-13~BL(T)32-15-2	5
BL(T)45-2-2~BL(T)45-6	1
BL(T)45-7-2~BL(T)45-9	4
BL(T)45-10-2~BL(T)45-13-2	5
BL(T)64-2-2~BL(T)64-5-2	1
BL(T)64-5-1~BL(T)64-8	4
BL(T)90-2-2~BL(T)90-4-2	1
BL(T)90-4~BL(T)90-6	4
BL(T)120, 150	6

**■ Commonly used mechanical seal configuration tables**



**■ Commonly used mechanical seal configuration tables**

Serial No.	Configuration	Configuration description	Applicable working conditions	Configuration situation
1	A:W(FC)	resin impregnated graphite dynamic ring A,hard alloy static ring W,fluororubber F,Structural parts stainless steel C	1. Normal working condition of cold water at 0°C~68°C, containing no particle, with oil allowed. 2. Normal working condition of hot water at 68°C~90°C, containing no particle, with oil allowed	Conventional
2	S:S(EC)	silicon carbide dynamic ring S, silicon carbide static ring S,EPDM E,Structural parts stainless steel C	1. Working condition of hot water at 90°C~120°C, containing a small number of particles but no oil.	Conventional
3	S:S(FC)	silicon carbide dynamic ring S, silicon carbide static ring S,fluororubber F,Structural parts stainless steel C	1. Acid medium PH=5-7. 2. Alkaline medium PH=5-7. 3. Working condition of hot water at 68°C~90°C, containing a small number of particles and oil. 4. Oil products.	Customized
4	W:W(EC)	hard alloy dynamic ring W, hard alloy static ring W, EPDM E,Structural parts stainless steel C	1. Frozen water below 0°C. 2 Alkaline medium with crystals. 3. Medium containing a lot of particles. 4. Working condition with the pressure higher than 2MPa.	Customized

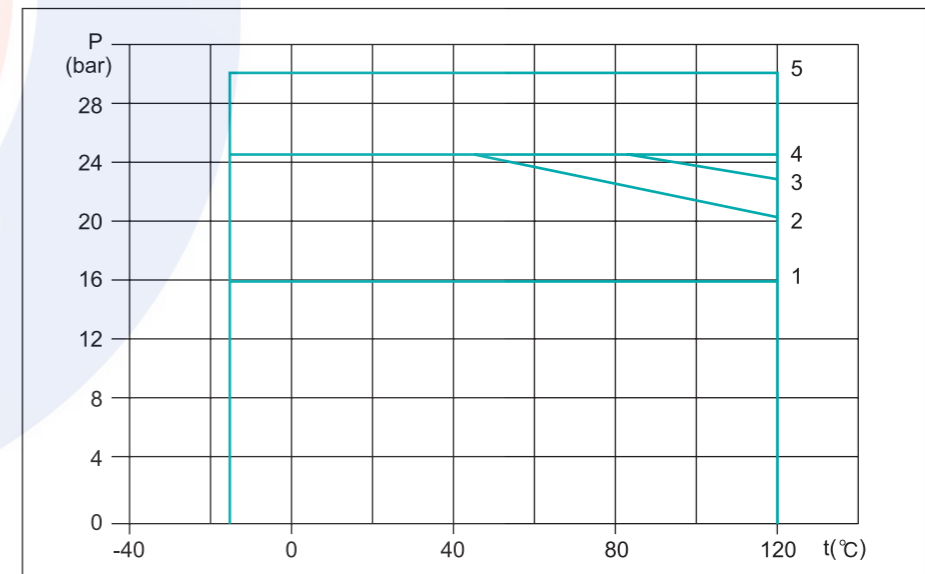


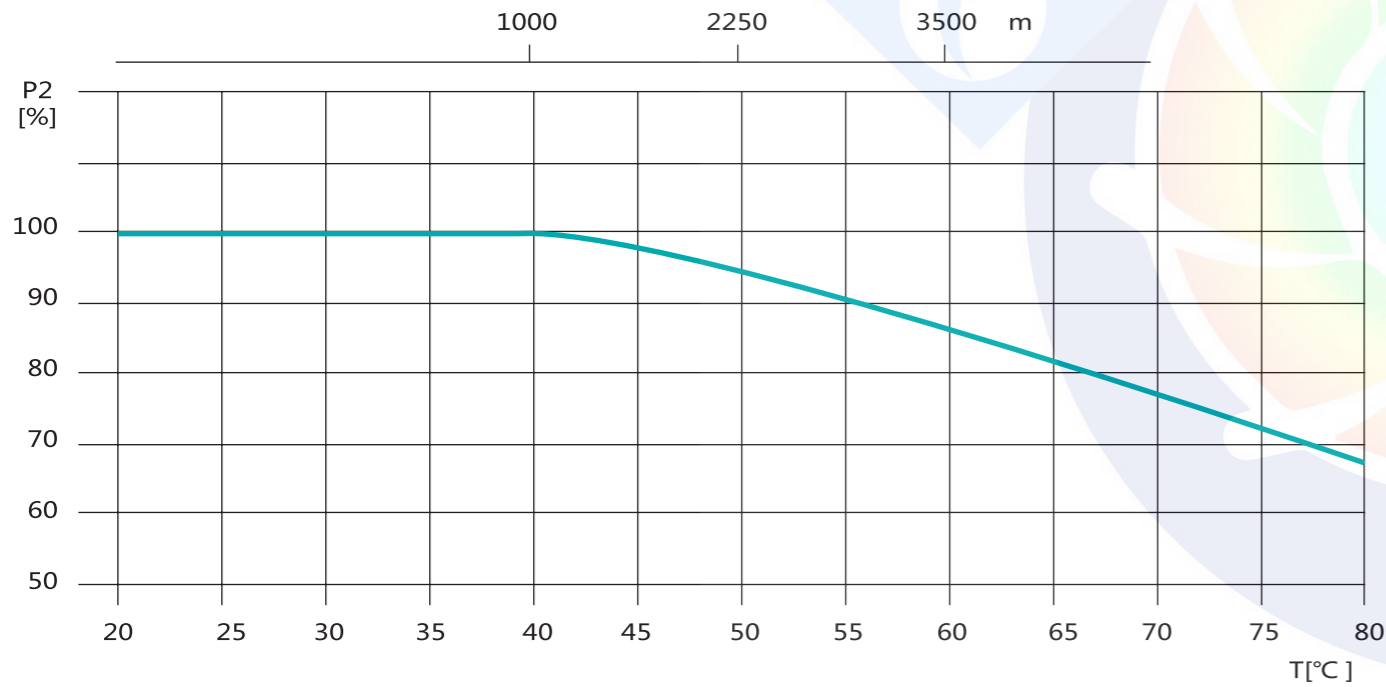
Fig. 4

The limits of pressure and temperature are shown in the following fig.4,the pressure and temperature must be in the shown in the fig. 4.

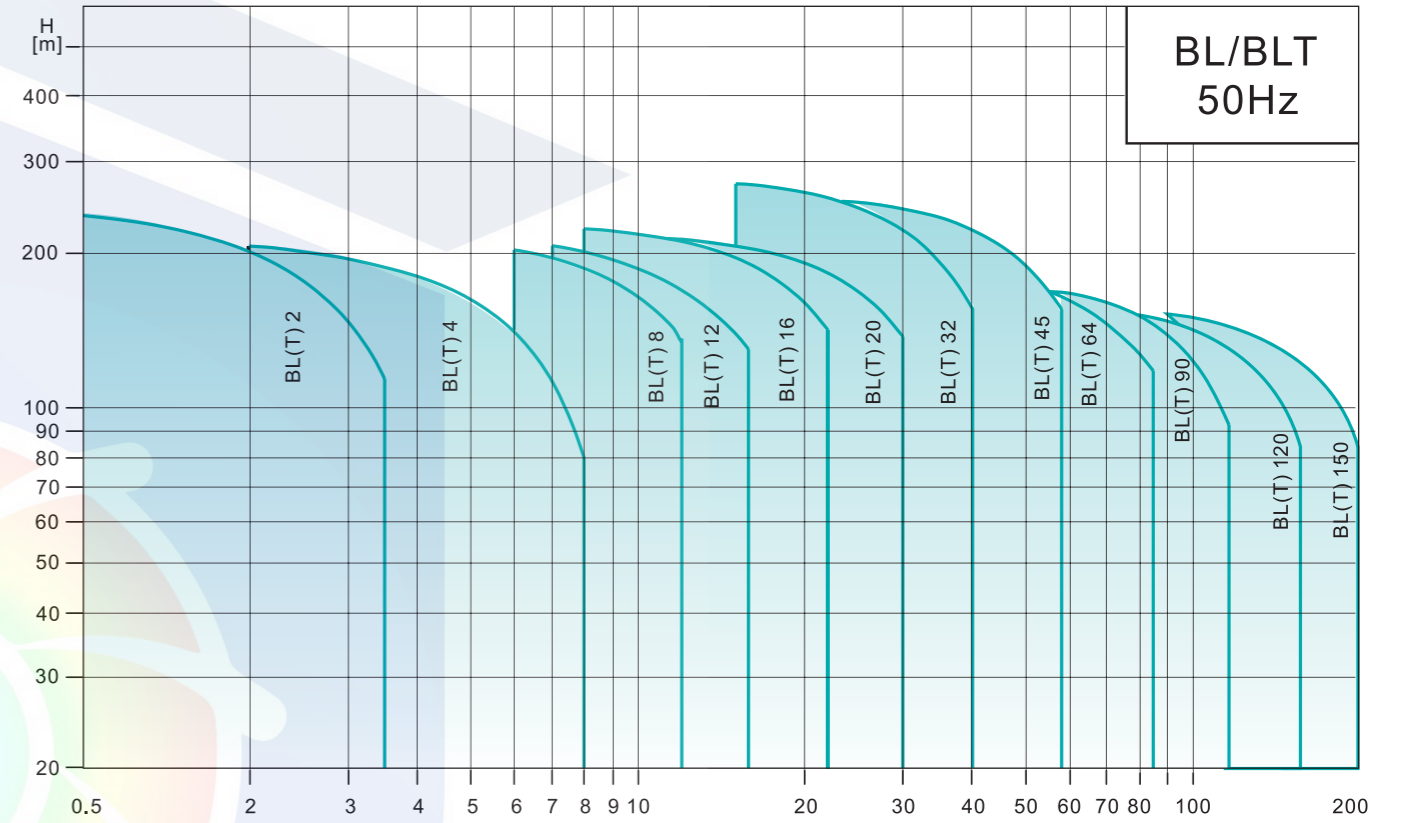
Mechanical seal type	Pump model	d1	d2	d3
NJK	BL(T)2/4	12	12	55
	BL(T)8/12/16/20	16	16	57.5
	BL(T)32/45/64/90	22	22	72
NDA	BW(J)2/4	12.7	16	32
	BW(J)8/16	17.4	20	33.5

Maximum Ambient Temperature

When the pump is operating in the place where ambient temperature is higher than 40°C or altitude is higher than 1000m, the output power of motor P2 will decrease because of poor cooling caused by low air density. Therefore, in that case, the pump should be equipped with high-power motor.



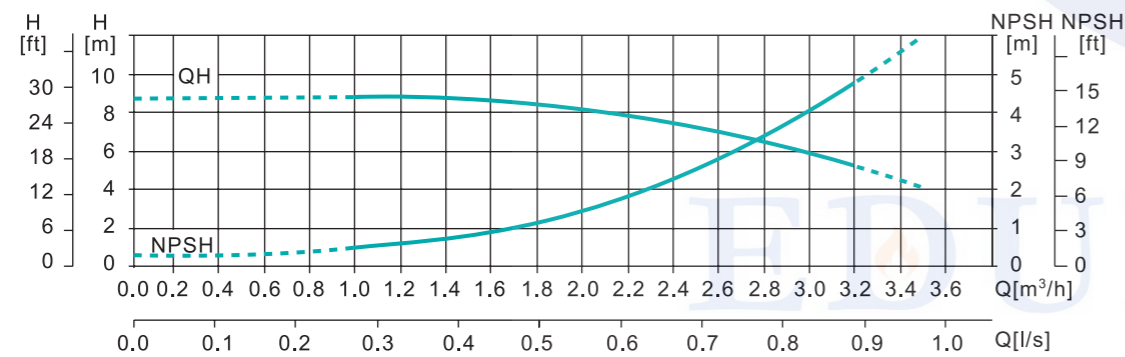
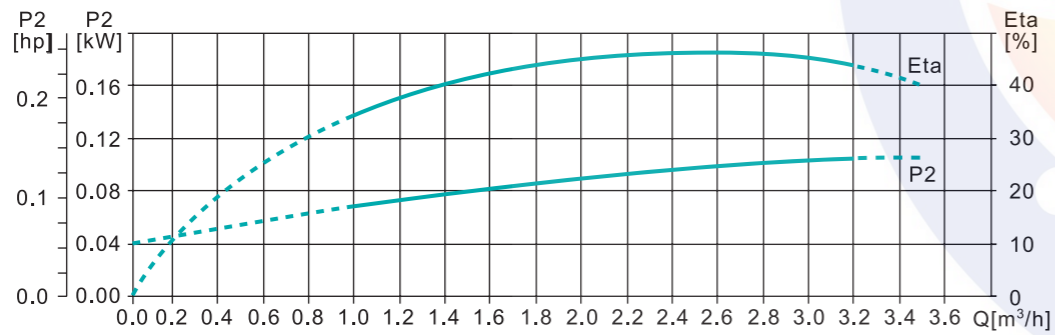
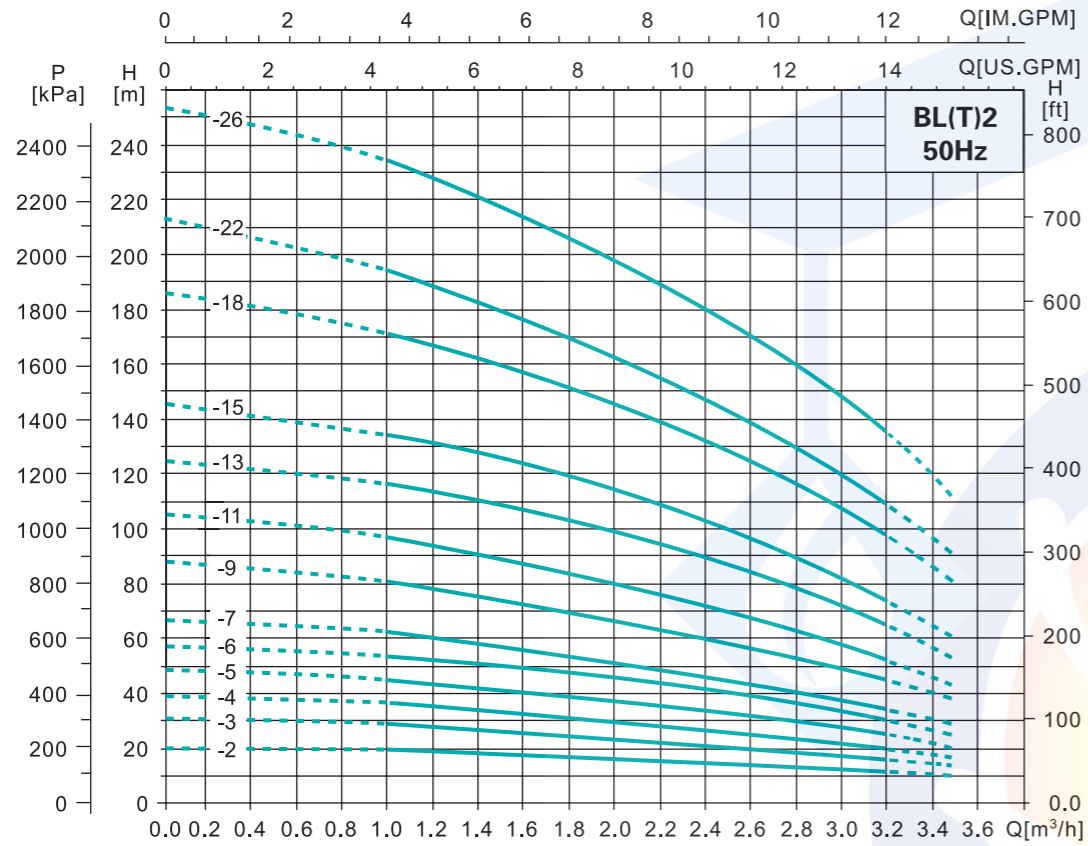
Performance Range



Model	BL(T)2	BL(T)4	BL(T)8	BL(T)12	BL(T)16	BL(T)20	BL(T)32	BL(T)45	BL(T)64	BL(T)90	BL(T)120	BL(T)150
Rated Flow (m³/h)	2	4	8	12	16	20	32	45	64	90	120	150
Flow Range (m³/h)	1~3.5	1.5~7	5~11	7~16	8~20	14~28	16~40	25~55	30~80	50~110	60~150	80~180
Max. Pressure (bar)	23	21	21	22	22	23	27	28	22	16	17	16
Motor Power (kW)	0.37~3	0.37~4	0.75~7.5	1.5~11	2.2~15	2.2~18.5	3~30	5.5~45	7.5~45	11~45	11~75	11~75
Max. Efficiency (%)	45	57	62	63	66	67	70	74	75	76	75	76
DIN Flange	DN25	DN32	DN40	DN50	DN50	DN50	DN65	DN80	DN100	DN100	DN125	DN125
Pipe Thread	R <sub>2</sub> 1¼	R <sub>2</sub> 1¼	Rc2, on request									
Oval flange	G1 or G1 1/4											
Temperature Range	Standard Type 0~+68°C Hot Water Type 0~+120°C											



Performance Curve - BL(T)2



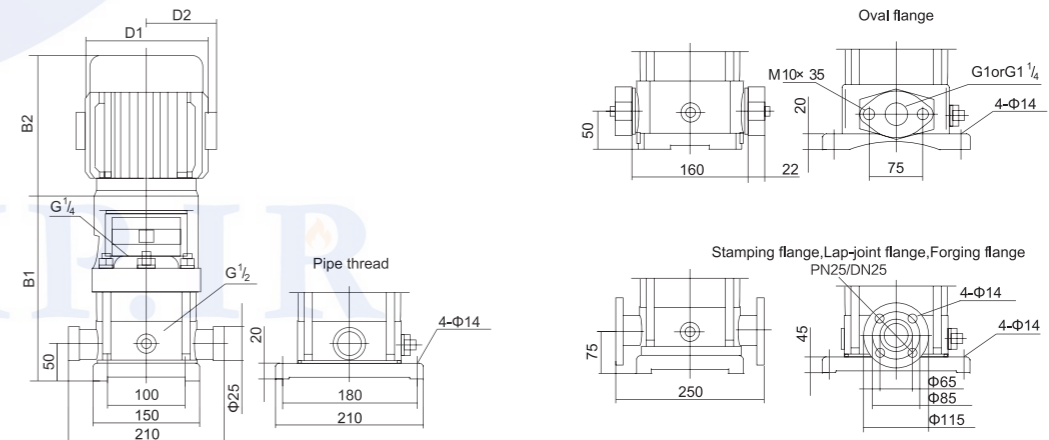
It is recommended to be used within lift range.

Performance Table

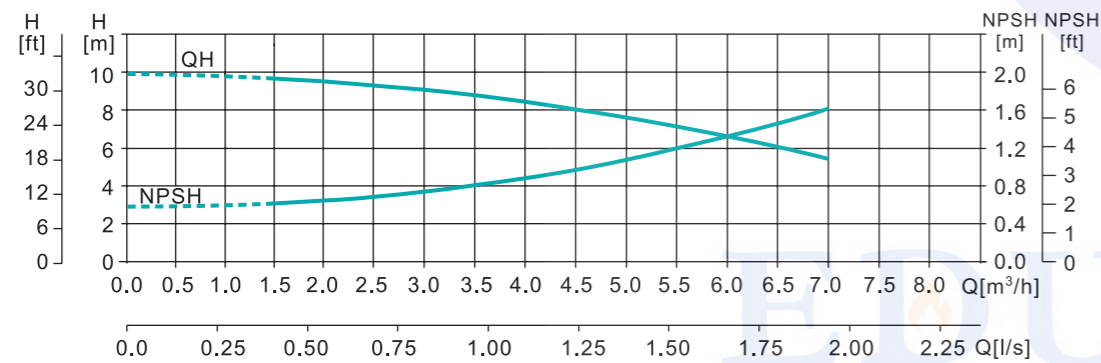
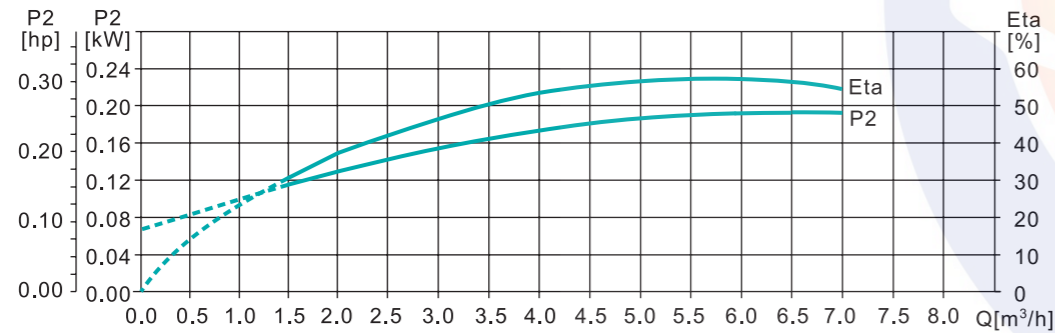
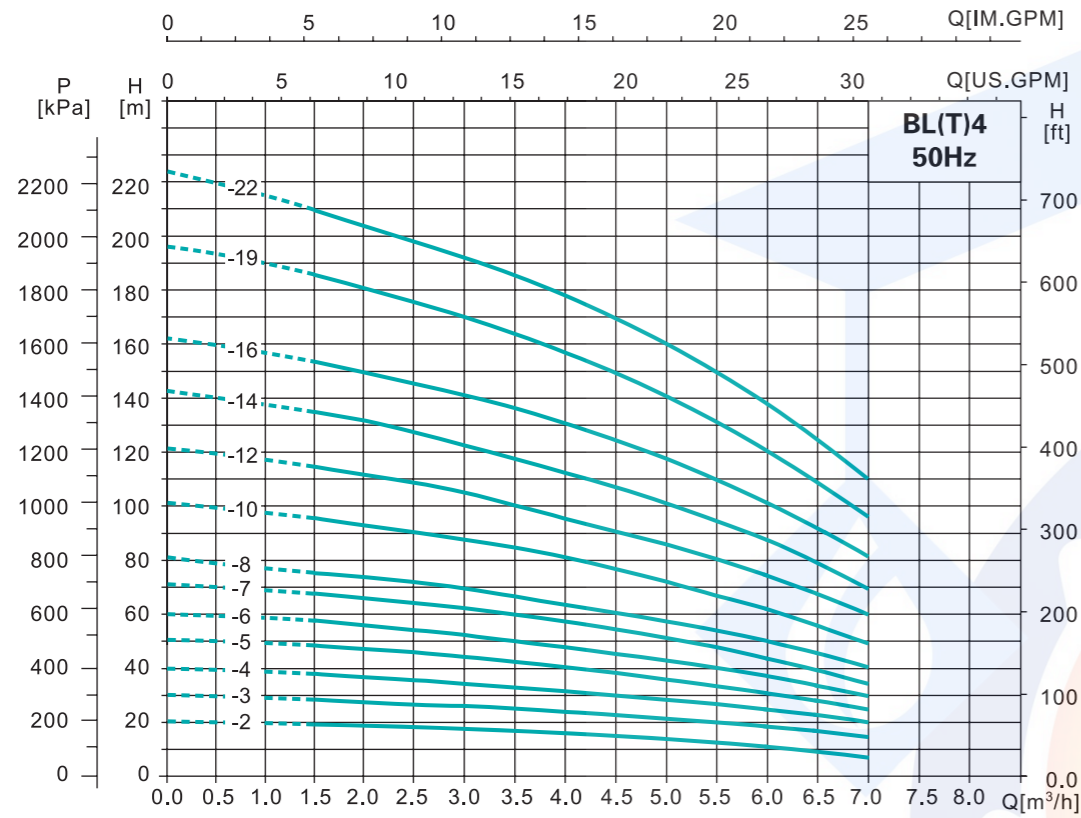
Model	Power		Caliber	Q (m³/h)	1	1.2	1.6	2	2.4	2.8	3.2	Head Range (m)
	kW	HP										
BL(T)2-2	0.37	0.5	32mm (1 1/4')	H(m)	18	17	16	15	13	12	10	10~18
BL(T)2-3	0.37	0.5			27	26	24	22	20	18	15	15~27
BL(T)2-4	0.55	0.75			36	35	33	30	26	24	20	20~36
BL(T)2-5	0.55	0.75			45	43	40	37	33	30	24	24~45
BL(T)2-6	0.75	1			53	52	50	45	40	36	30	30~53
BL(T)2-7	0.75	1			63	61	57	52	47	41	35	35~63
BL(T)2-9	1.1	1.5			80	78	73	67	61	54	45	45~80
BL(T)2-11	1.1	1.5			98	95	89	82	73	64	54	54~98
BL(T)2-13	1.5	2			116	114	106	98	89	78	65	65~116
BL(T)2-15	1.5	2			134	130	123	112	100	90	73	73~134
BL(T)2-18	2.2	3			161	157	148	136	121	108	91	91~161
BL(T)2-22	2.2	3			197	192	180	165	148	130	110	110~197
BL(T)2-26	3	4			232	228	214	198	179	158	130	130~232

Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)2-2	278	220	498	135	86	21	26
BL(T)2-3	278	220	498	135	86	21	26
BL(T)2-4	296	220	516	135	86	23	28
BL(T)2-5	314	220	534	135	86	23	28
BL(T)2-6	340	255	595	148	96	27	31
BL(T)2-7	358	255	613	148	96	27	32
BL(T)2-9	394	255	649	148	96	30	34
BL(T)2-11	430	255	685	148	96	31	35
BL(T)2-13	479	300	779	166	115	34	39
BL(T)2-15	515	300	815	166	115	35	40
BL(T)2-18	569	300	869	166	115	39	44
BL(T)2-22	641	300	941	166	115	41	46
BL(T)2-26	722	325	1047	191	128	49	54



Performance Curve - BL(T) 4



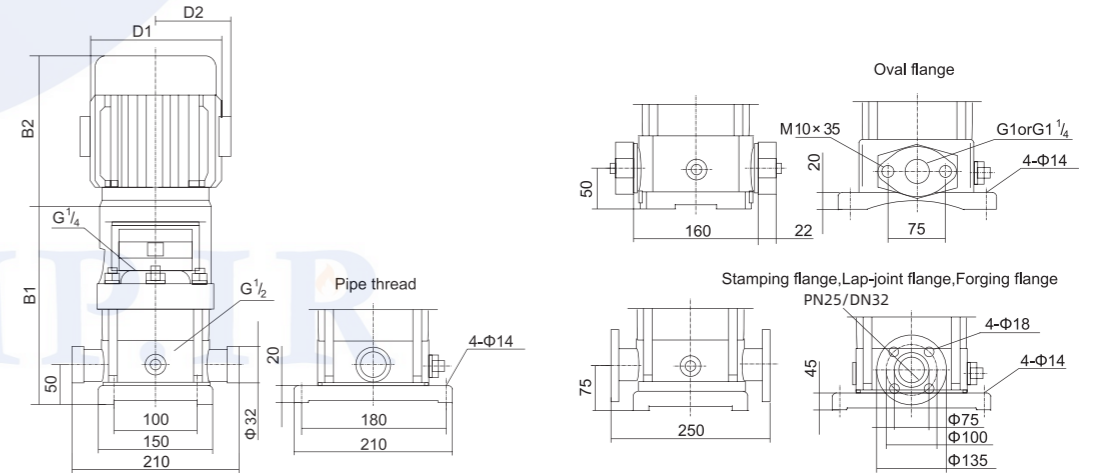
It is recommended to be used within lift range.

Performance Table

Model	Power		Caliber	Q (m³/h)	1.5	2	3	4	5	6	7	Head Range (m)
	kw	HP										
BL(T)4-2	0.37	0.5	32mm (1 1/4")	H(m)	19	18	17	15	13	10	8	8~19
BL(T)4-3	0.55	0.75			28	27	26	24	20	18	13	13~28
BL(T)4-4	0.75	1			38	36	34	32	27	24	19	19~38
BL(T)4-5	1.1	1.5			47	45	43	40	34	31	23	23~47
BL(T)4-6	1.1	1.5			56	54	52	48	41	37	28	28~56
BL(T)4-7	1.5	2			66	63	61	56	48	43	33	33~66
BL(T)4-8	1.5	2			74	72	70	64	55	50	38	38~74
BL(T)4-10	2.2	3			96	90	87	81	71	62	48	48~96
BL(T)4-12	2.2	3			114	108	104	95	85	75	58	58~114
BL(T)4-14	3	4			136	126	122	112	101	89	68	68~136
BL(T)4-16	3	4			152	144	140	129	115	101	78	78~152
BL(T)4-19	4	5.5			183	171	168	153	137	122	93	93~183
BL(T)4-22	4	5.5	211	200	192	178	160	138	108	108~211		

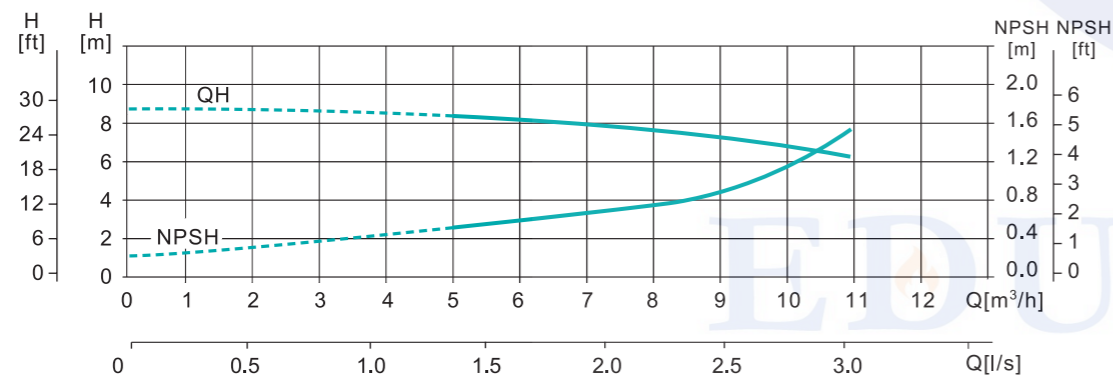
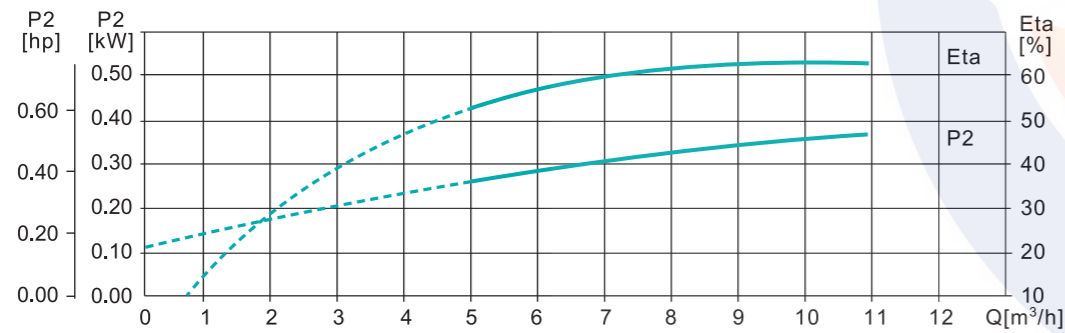
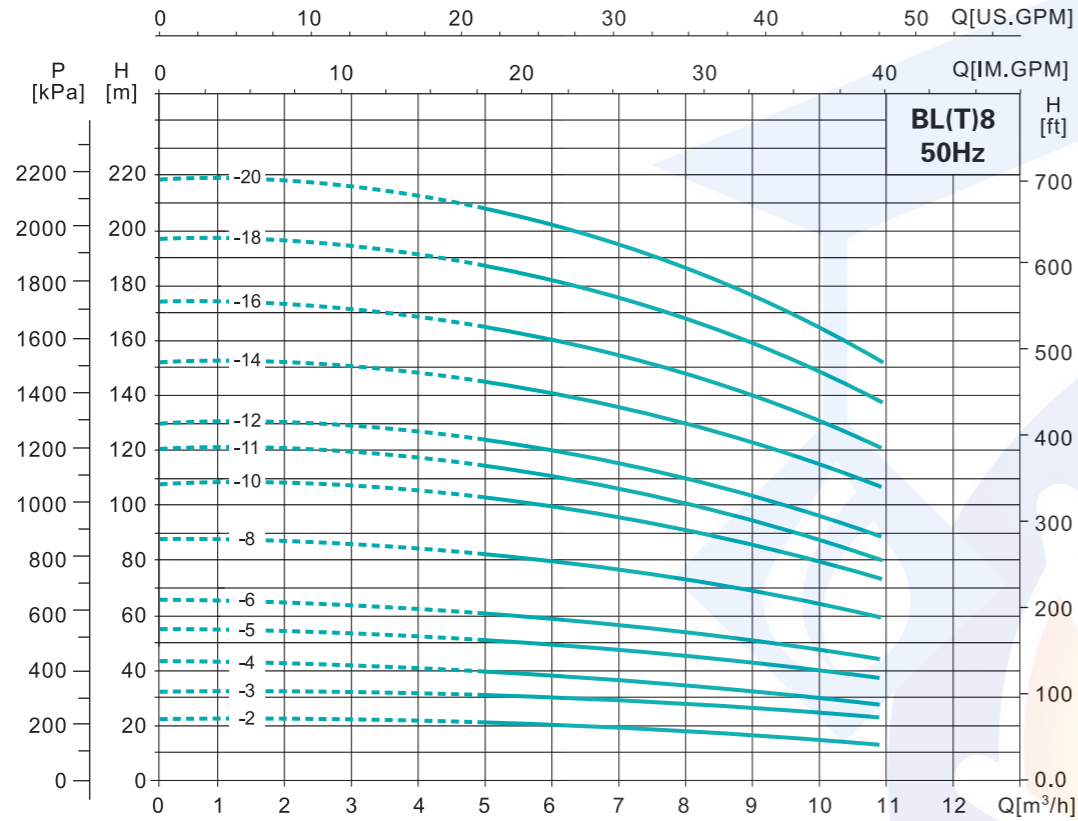
Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)4-2	278	220	498	135	86	21	26
BL(T)4-3	305	220	525	135	86	23	28
BL(T)4-4	340	255	595	148	96	27	32
BL(T)4-5	367	255	622	148	96	29	34
BL(T)4-6	394	255	649	148	96	29	34
BL(T)4-7	434	300	734	166	115	33	38
BL(T)4-8	461	300	761	166	115	33	39
BL(T)4-10	515	300	815	166	115	37	42
BL(T)4-12	569	300	869	166	115	38	44
BL(T)4-14	632	325	957	191	128	46	51
BL(T)4-16	686	325	1011	191	128	47	52
BL(T)4-19	767	355	1122	212	140	56	61
BL(T)4-22	848	355	1203	212	140	58	62





Performance Curve - BL(T) 8



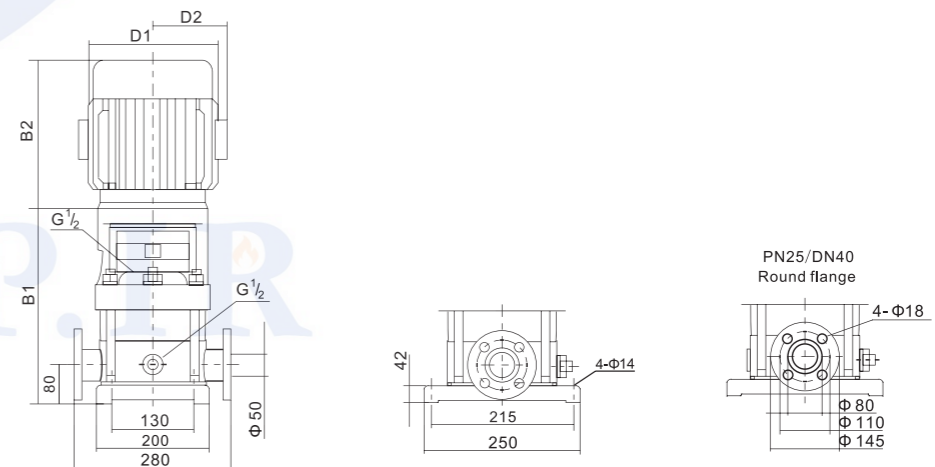
It is recommended to be used within lift range.

Performance Table

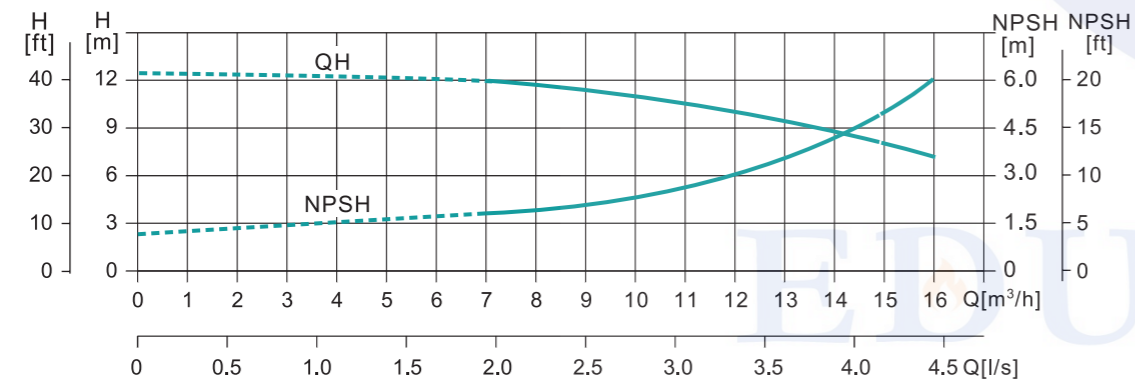
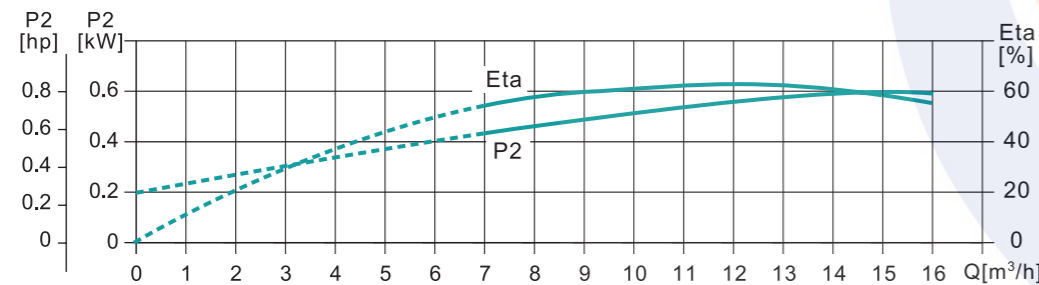
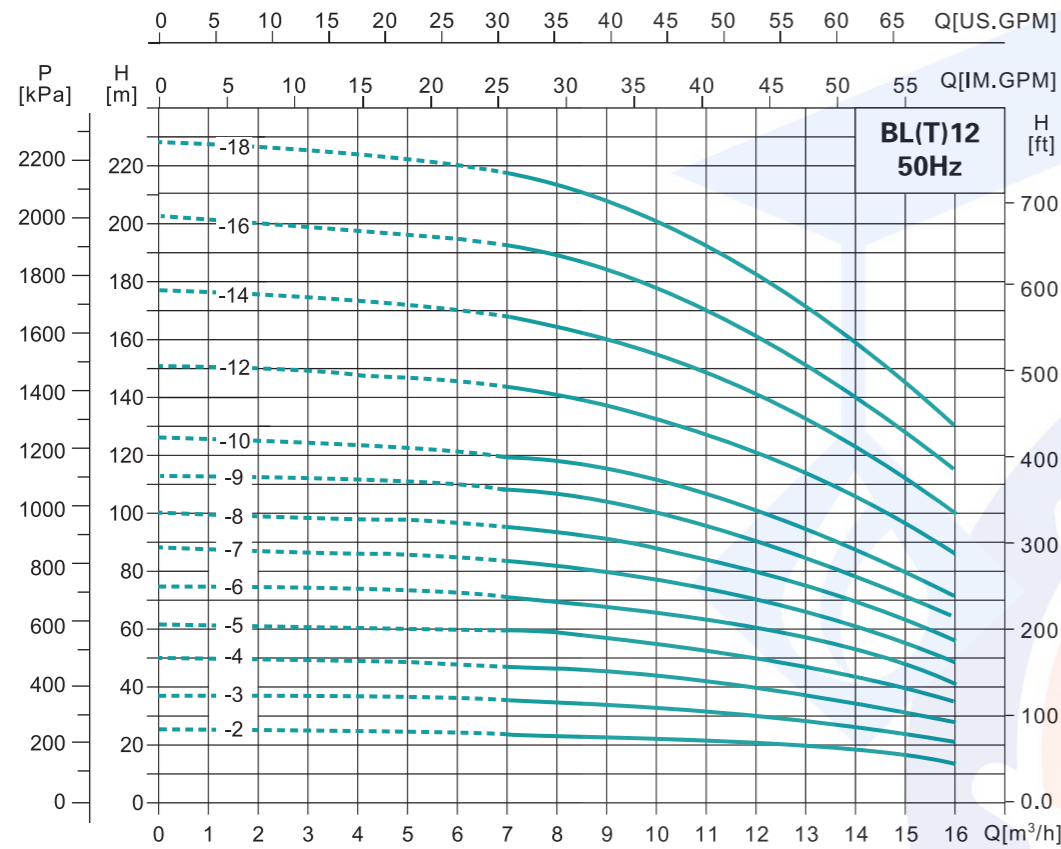
Model	Power		Caliber	Q (m³/h)	5	6	7	8	9	10	11	Head Range (m)
	kW	HP										
BL(T)8-2	0.75	1	50mm (2')	H(m)	20	19.5	19	18	17	16	14	14~20
BL(T)8-3	1.1	1.5			30	29.5	28.5	27	25	24	21	21~30
BL(T)8-4	1.5	2			41	39.5	38	36	34	32	28	28~41
BL(T)8-5	2.2	3			52	50	48	45	42	40	36	36~52
BL(T)8-6	2.2	3			62	60	57	54	51	48	43	43~62
BL(T)8-8	3	4			83	80	77	73	69	65	58	58~83
BL(T)8-10	4	5.5			104	100	97	92	87	81	73	73~104
BL(T)8-11	4	5.5			114	110	106	101	95	86	80	80~114
BL(T)8-12	4	5.5			124	120	116	111	104	92	87	87~124
BL(T)8-14	5.5	7.5			145	141	136	130	122	113	102	102~145
BL(T)8-16	5.5	7.5			166	161	156	148	139	130	118	118~166
BL(T)8-18	7.5	10			187	182	175	167	157	146	134	134~187
BL(T)8-20	7.5	10	208	202	195	186	175	163	150	150~208		

Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)8-2	368	255	623	155	96	36	43
BL(T)8-3	400	255	655	155	96	39	45
BL(T)8-4	437	300	737	175	115	42	49
BL(T)8-5	469	300	769	175	115	46	53
BL(T)8-6	501	300	801	175	115	47	54
BL(T)8-8	575	325	900	191	128	56	62
BL(T)8-10	639	355	994	212	140	65	71
BL(T)8-11	671	355	1026	212	140	66	72
BL(T)8-12	703	355	1058	212	140	68	74
BL(T)8-14	791	430	1221	258	163	86	93
BL(T)8-16	855	430	1285	258	163	89	95
BL(T)8-18	919	430	1349	258	163	95	101
BL(T)8-20	983	430	1413	258	163	97	103



Performance Curve - BL(T) 12



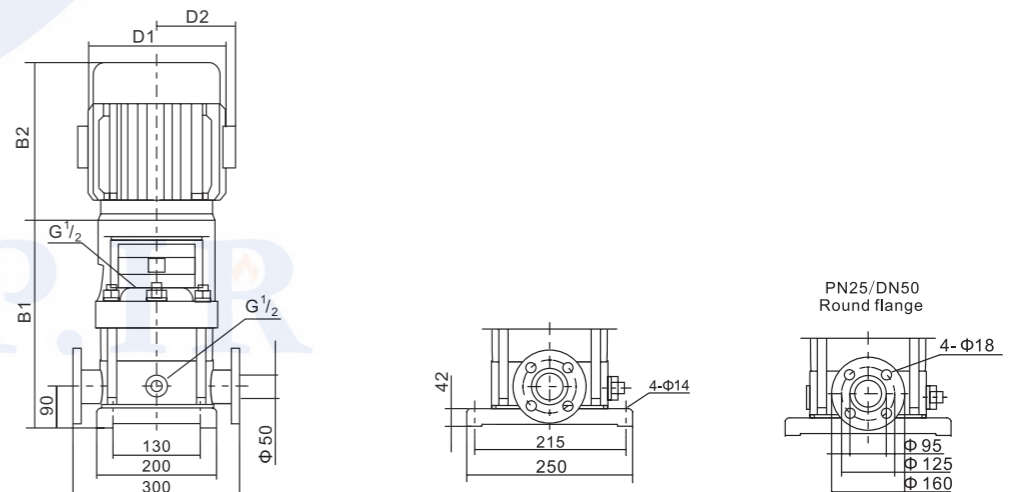
It is recommended to be used within lift range.

Performance Table

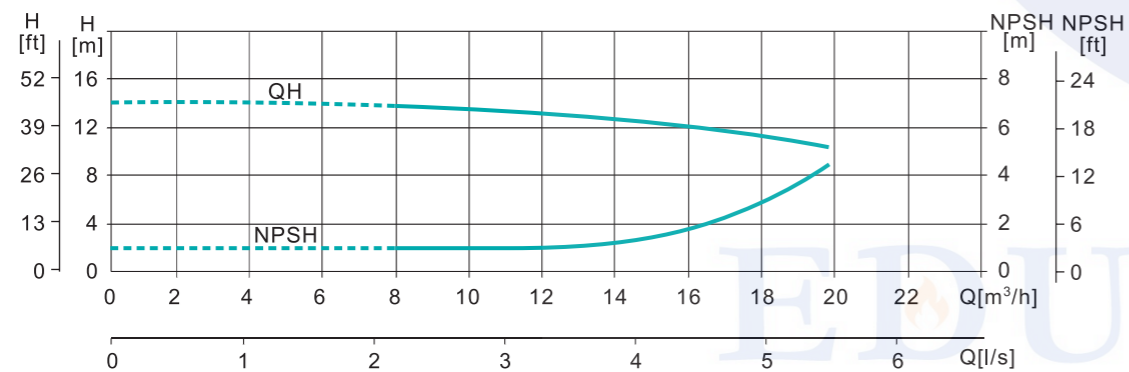
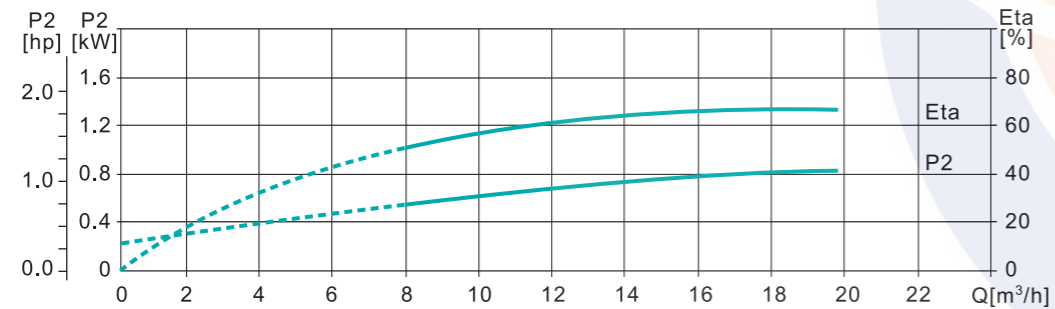
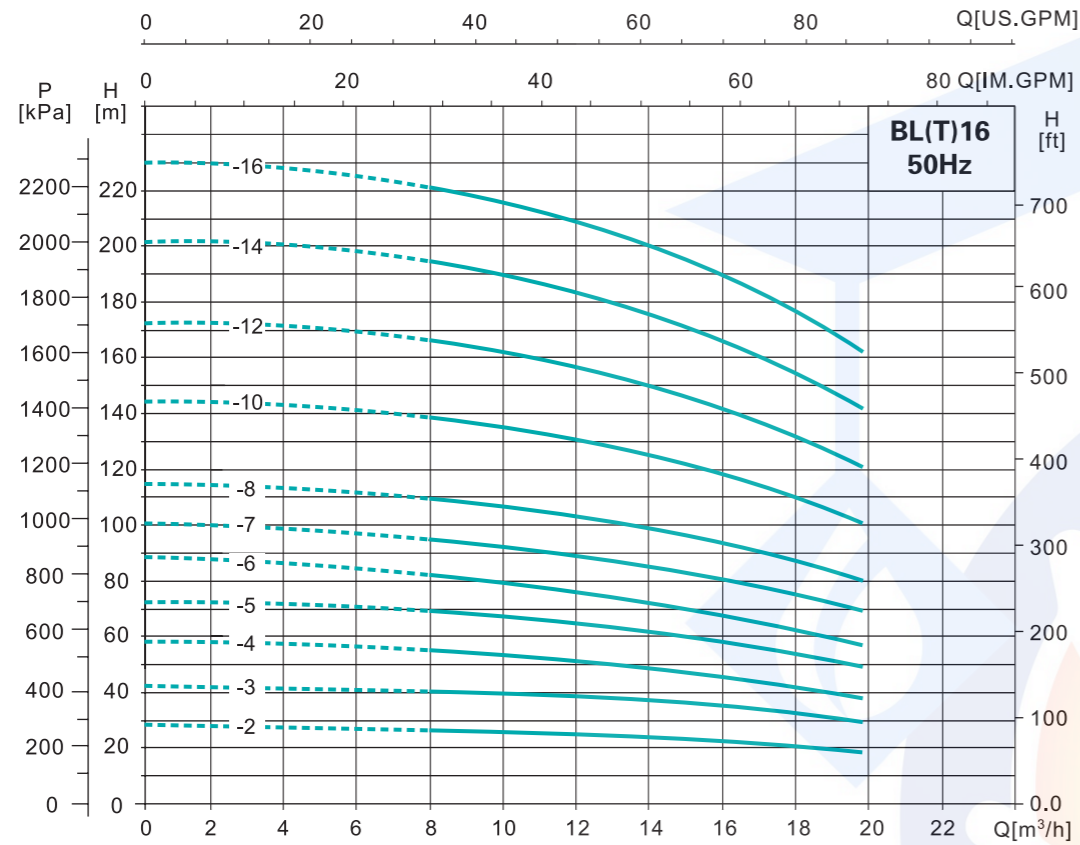
Model	Power		Caliber	Q (m³/h)	7	8	10	12	14	15	16	Head Range (m)
	kW	HP										
BL(T)12-2	1.5	2	50mm (2')	H(m)	23.5	23	22	20	17	15	14	14~23.5
BL(T)12-3	2.2	3			35.5	35	33	30	26	23	21	21~35.5
BL(T)12-4	3	4			47	46	44	40	34	31	28	28~47
BL(T)12-5	3	4			59.5	58	55	50	43	39	35	35~59.5
BL(T)12-6	4	5.5			71.5	70	66	60	52	47	42	42~71.5
BL(T)12-7	5.5	7.5			83.5	82	77	70	61	55	49	49~83.5
BL(T)12-8	5.5	7.5			95.5	94	88	80	70	63	56	56~95.5
BL(T)12-9	5.5	7.5			108	106	100	91	79	71	64	64~108
BL(T)12-10	7.5	10			120	118	111	101	88	80	72	72~120
BL(T)12-12	7.5	10			143.5	141	133	121	106	96	86	86~143.5
BL(T)12-14	11	15			168	165	155	141	124	112	100	100~168
BL(T)12-16	11	15			192.5	189	178	162	142	128	115	115~192.5
BL(T)12-18	11	15	217	213	202	183	160	145	130	130~217		

Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)12-2	383	300	683	166	115	41	48
BL(T)12-3	415	300	715	166	115	44	51
BL(T)12-4	456	325	781	191	128	52	59
BL(T)12-5	488	325	813	191	128	53	60
BL(T)12-6	519	355	874	212	140	61	69
BL(T)12-7	575	395	970	258	163	79	87
BL(T)12-8	606	395	1001	258	163	80	88
BL(T)12-9	638	395	1033	258	163	81	89
BL(T)12-10	669	395	1064	258	163	86	94
BL(T)12-12	733	395	1128	258	163	88	96
BL(T)12-14	825	498	1323	315	251	163	171
BL(T)12-16	888	498	1386	315	251	165	173
BL(T)12-18	951	498	1449	315	251	167	175



Performance Curve - BL(T) 16



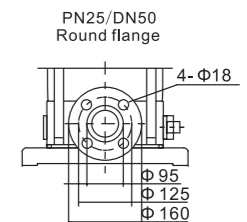
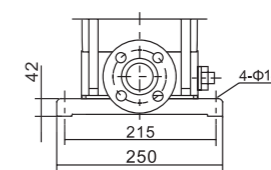
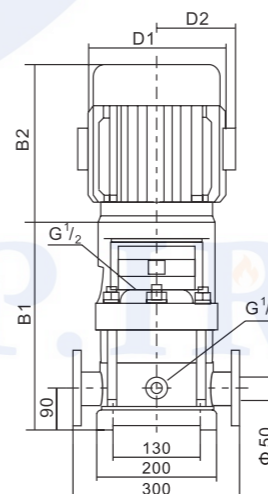
It is recommended to be used within lift range.

Performance Table

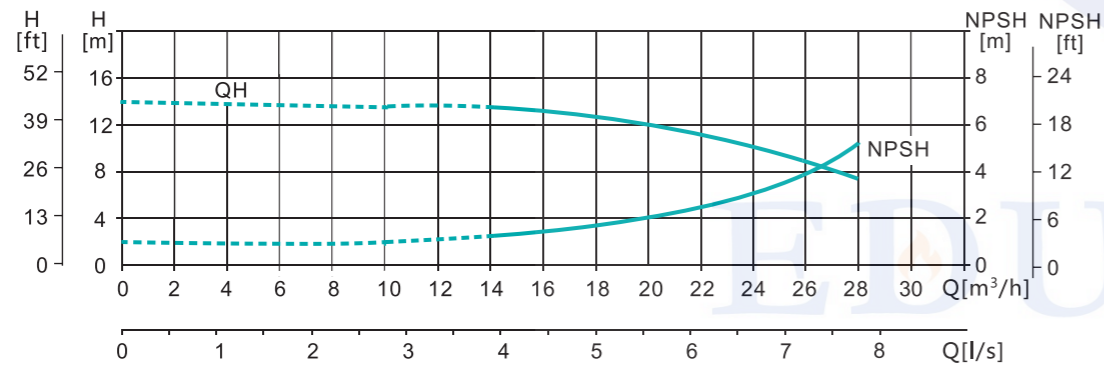
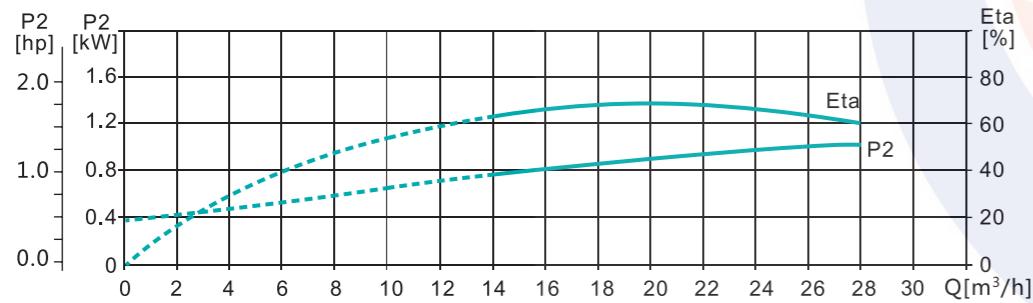
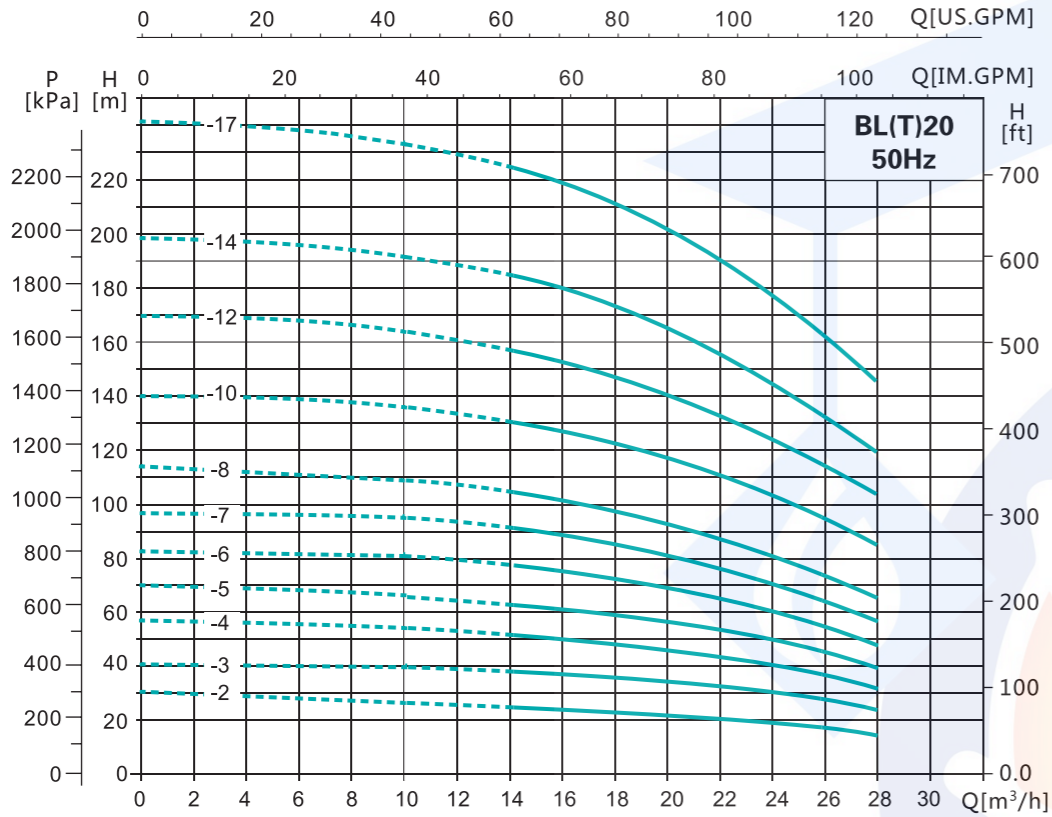
Model	Power		Caliber	Q (m³/h)	8	10	12	14	16	18	20	Head Range (m)
	kW	HP			H(m)							
BL(T)16-2	2.2	3	50mm (2')	H(m)	27	26	25	24	22	21	19	19~27
BL(T)16-3	3	4			41	40	38	37	34	32	29	29~41
BL(T)16-4	4	5.5			54	53	52	49	46	43	38	38~54
BL(T)16-5	5.5	7.5			68	67	65	62	58	54	48	48~68
BL(T)16-6	5.5	7.5			82	80	78	74	70	64	58	58~82
BL(T)16-7	7.5	10			96	95	91	87	82	76	68	68~96
BL(T)16-8	7.5	10			110	108	104	99	94	86	77	77~110
BL(T)16-10	11	15			138	136	131	125	118	109	97	97~138
BL(T)16-12	11	15			166	162	157	150	141	130	116	116~166
BL(T)16-14	15	20			194	190	184	175	166	152	136	136~194
BL(T)16-16	15	20			222	217	210	200	189	174	156	156~222

Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)16-2	410	300	710	166	115	44	51
BL(T)16-3	465	325	790	191	128	52	59
BL(T)16-4	510	355	865	212	140	60	68
BL(T)16-5	581	395	976	258	163	79	86
BL(T)16-6	626	395	1021	258	163	80	88
BL(T)16-7	671	395	1066	258	163	84	93
BL(T)16-8	716	395	1111	258	163	85	95
BL(T)16-10	837	498	1335	315	251	163	171
BL(T)16-12	927	498	1425	315	251	167	173
BL(T)16-14	1017	498	1515	315	251	181	186
BL(T)16-16	1107	498	1605	315	251	183	189



Performance Curve - BL(T) 20



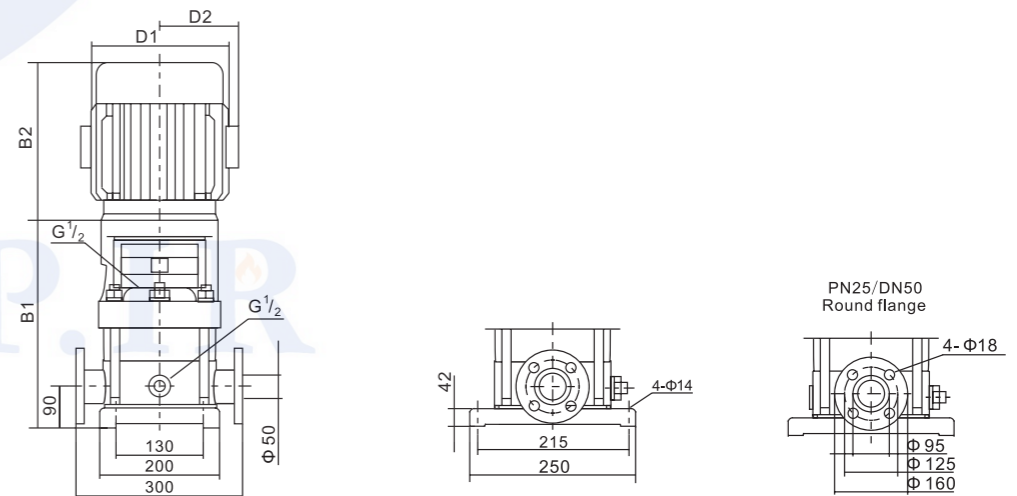
It is recommended to be used within lift range.

Performance Table

Model	Power		Caliber	Q (m³/h)	14	16	18	20	22	24	26	28	Head Range (m)	
	kW	HP			H(m)									
BL(T)20-2	2.2	3	50mm (2')	H(m)	26	25	24	23	22	20	18	15	15~26	
BL(T)20-3	4	5.5			39	38	37	35	33	30	27	24	24	24~39
BL(T)20-4	5.5	7.5			52	51	49	47	44	41	37	33	33	33~52
BL(T)20-5	5.5	7.5			64	62	60	58	55	50	45	40	40	40~64
BL(T)20-6	7.5	10			77	75	73	70	66	61	55	49	49	49~77
BL(T)20-7	7.5	10			91	89	86	82	77	71	65	58	58	58~91
BL(T)20-8	11	15			105	102	99	94	89	82	75	67	67	67~105
BL(T)20-10	11	15			131	128	124	118	111	103	95	85	85	85~131
BL(T)20-12	15	20			158	154	149	142	133	124	114	102	102	102~158
BL(T)20-14	15	20			185	180	174	166	156	145	133	119	119	119~185
BL(T)20-17	18.5	25	225	219	212	202	190	177	162	145	145	145~225		

Dimensions

Model	Dim.(mm)					N.W.(kg)	
	B1	B2	B1+B2	D1	D2	BL	BLT
BL(T)20-2	410	300	710	166	115	44	51
BL(T)20-3	465	355	820	212	140	59	66
BL(T)20-4	536	395	931	258	163	77	85
BL(T)20-5	581	395	976	258	163	79	87
BL(T)20-6	626	395	1021	258	163	82	92
BL(T)20-7	671	395	1066	258	163	83	94
BL(T)20-8	747	498	1245	315	251	160	168
BL(T)20-10	837	498	1335	315	251	163	171
BL(T)20-12	927	498	1425	315	251	177	184
BL(T)20-14	1017	498	1515	315	251	180	187
BL(T)20-17	1152	542	1694	315	251	200	208



# شرکت پیشگامان صنعت و ایمنی پرگاس



گروه تخصصی اطفاء حریق

 [Edufire.ir](http://Edufire.ir)

 [Edufire.ir](https://www.instagram.com/Edufire.ir)



گروه تخصصی سیستم‌های پمپاژ

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 [Edualarm.ir](https://www.instagram.com/Edualarm.ir)



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 [Eduhvac.ir](http://Eduhvac.ir)

 [Eduhvac.ir](https://www.instagram.com/Eduhvac.ir)

