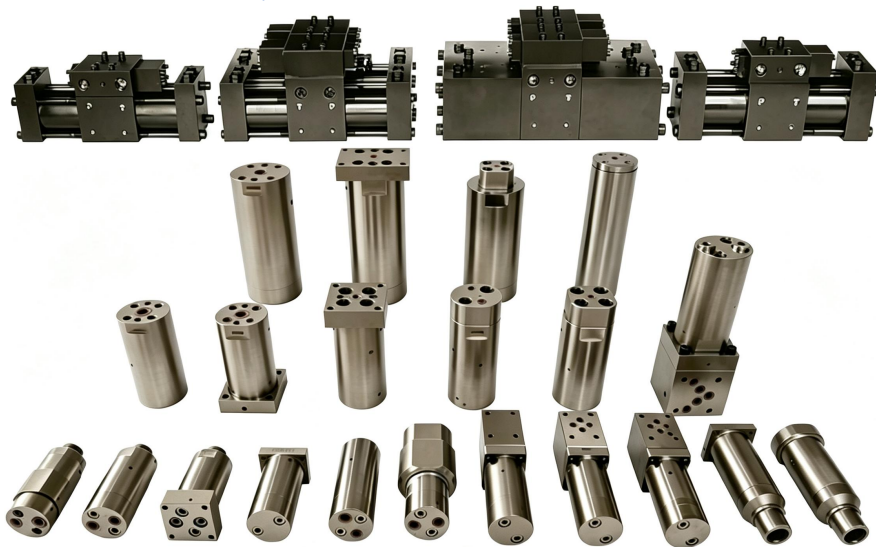


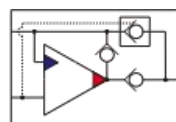
液压增压器
Hydraulic booster



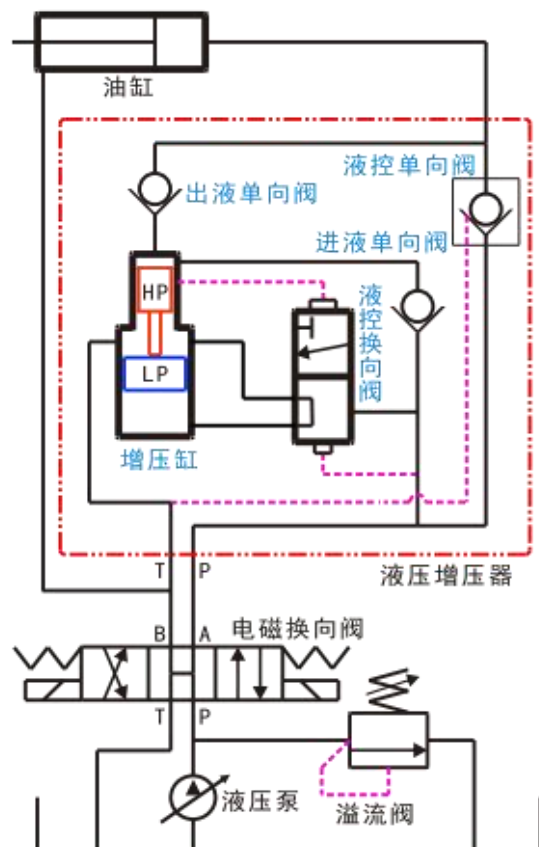
增压器系列表

BOOSTER TYPE TABLE

系列	型号	安装方式	增压比	压力等级	输入流量	特点
T	BST-TY-*. *G	管式	1.8, 2.5, 3.4, 4, 5, 7, 10	100MPa	15LPM	单向往复增压，体积小，压力高
	BST-TY-*. *F	高压法兰式	1.8, 2.5, 3.4, 4, 5, 7, 10	200MPa	15LPM	
	BST-TY-*. *DA/ B/ P	叠加式NG6	1.8, 2.5, 3.4, 4, 5, 7, 10	100MPa	15LPM	
	BST-TY-*. *DFA/ B	低压法兰式	1.8, 2.5, 3.4, 4, 5, 7, 10	100MPa	15LPM	
	BST-TGY-*. *G	高压型1	7, 10, 13, 16	300MPa	10LPM	
	BST-TRAY-*. *	救援型	1.8, 2.5, 3.4, 4, 5, 7, 10	100MPa	15LPM	
	BST-TY-*. *SG	高压双出口	1.8, 2.5, 3.4, 4, 5, 7, 10	100MPa	15LPM	
	BST-THN-*. *G	高压型2	10, 13, 16	300MPa	10LPM	
TS	BST-TSY-*. *G	管式	1.8, 2.5, 3.5, 4.6, 5.5, 6.9, 9.5	100MPa	25LPM	双向往复增压，波动小
	BST-TSY-*. *F	法兰式	1.8, 2.5, 3.5, 4.6, 5.5, 6.9, 9.5	100MPa	25LPM	
	BST-TSY-*. *D	叠加式NG6	1.8, 2.5, 3.5, 4.6, 5.5, 6.9, 9.5	100MPa	25LPM	
M	BST-MY-*. *G	管式	1.9, 2.5, 3.4, 4, 5, 7, 10	100MPa	35LPM	单向往复增压，流量中等
	BST-MY-*. *DF	低压法兰式	1.9, 2.5, 3.4, 4, 5, 7, 10	100MPa	35LPM	
	BST-MY-*. *SG	高压双出口	1.9, 2.5, 3.4, 4, 5, 7, 10	100MPa	35LPM	
	BST-MY-*. *F	高压法兰式	1.9, 2.5, 3.4, 4, 5, 7, 10	250MPa	35LPM	
	BST-MY-*. *DB	叠加式NG10	1.9, 2.5, 3.4, 4, 5, 7, 10	100MPa	35LPM	
	BST-MGY-*. *G	高压型1	7, 10	250MPa	35LPM	
L	BST-LY-*. *G	管式	1.4, 2, 3.2, 4.5, 6, 8, 11	100MPa	100LPM	单向往复增压，流量大
	BST-LY-*. *F	法兰式	1.4, 2, 3.2, 4.5, 6, 8, 11	250MPa	100LPM	
	BST-LGY-20G	高压型	20	400MPa	50LPM	
	BST-LY-*. *DF	低压法兰式	1.4, 2, 3.2, 4.5, 6, 8, 11	100MPa	100LPM	
	BST-LY-*. *S	顺序式	1.4, 2, 3.2, 4.5, 6, 8, 11	100MPa	100LPM	
LS	BST-LSY-*. *G	管式	1.4, 2, 3.2, 4.5, 6, 8, 11	100MPa	100LPM	双向往复增压，流量大
	BST-LSY-*. *F	法兰式	1.4, 2, 3.2, 4.5, 6, 8, 11	200MPa	100LPM	
LXL	LXL-3.0	管式	3, 5, 7, 10	200MPa	20LPM	低压零泄漏，适合长时间保压
X	X60	单联双向往复	1.8, 2.5, 3.7, 5.7, 6.8, 8, 11	250MPa	150LPM	流量大，双向增压
	DX60	双联双向往复	1.8, 2.5, 3.7, 5.7, 6.8, 8, 11	250MPa	300LPM	双联波动小
	X80	单联双向往复	3.2, 4.6, 6.7, 10, 14.5, 20	250MPa	200LPM	流量大，双向增压
	DX80	双联双向往复	3.2, 4.6, 6.7, 10, 14.5, 20	250MPa	400LPM	双联波动小

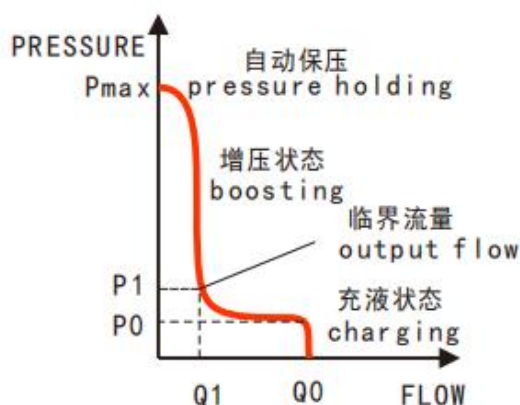


工作原理



液压增压器本质上就是自动化增压缸。

由于低压大活塞LP的面积大于高压小活塞HP的面积，低压压力将推动低压大活塞LP向上运动并压缩高压小活塞HP端的液柱，产生高压，大小活塞面积比即为增压器的增压比。通过小活塞HP位置反馈控制液控换向阀自动换向，实现大小活塞往复运动，连续增压。

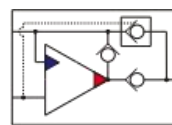


低压充液：液压油从P口进入增压器，大部分通过液控单向阀直接到油缸无杆腔；其余通过进液单向阀、出液单向阀到达油缸无杆腔，实现快速供油。

增压阶段：液控单向阀因压力平衡自动关闭，液压油通过进液单向阀到达活塞HP顶端，推动增压缸活塞LP一起下移到底部。活塞HP到底部后，高压油将与增压器换向阀芯上部接通，推动阀芯向下运动。换向后，液压油通过增压器换向阀达到活塞LP底部，推动活塞HP向上运动，输出高压油，通过出液单向阀到达油缸无杆腔；活塞HP到顶部后，增压器换向阀顶部与增压器T口连接，换向阀再次换向，回到图示初始位置。如此自动循环，增压器可以实现高频动作并连续输出高压油。

自动保压：高压端压力使高压活塞HP与低压活塞LP达到力学平衡后，活塞将停止动作。当高压侧因负载减小或者泄漏等因素造成压力降低时，高低压活塞将失去力学平衡而自动循环补压。

卸荷功能：电磁换向阀换向，增压器T口的进油将打开液控单向阀，油缸无杆腔的液压油通过液控单向阀流回增压器P口，再通过电磁换向阀回到系统油箱。



INTRODUCTION

HOW BOOSTER WORKS:

Hydraulic booster is based on an auto pressure cylinder.

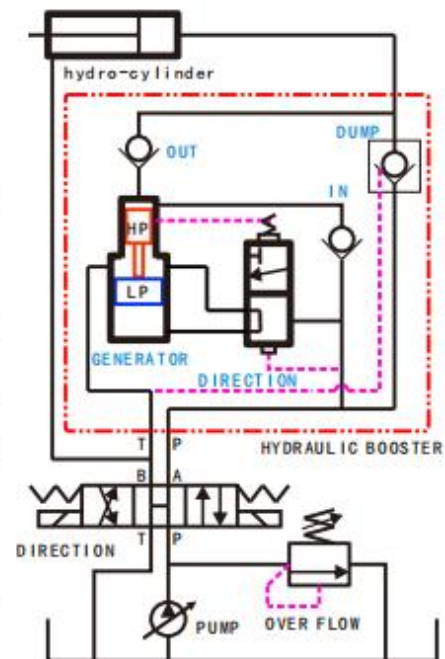
A larger piston LP push a smaller piston HP up, thus increasing the pressure at the head of piston HP to a factor equal to the ratio of area between piston LP and piston HP, we use "I" represent the ratio.

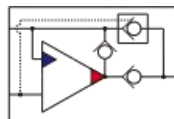
QUICK SUPPLY: The low pressure fluid run into hydraulic booster from port P, through dump valve, most of them reach the hydro-cylinder, the others reach the hydro-cylinder through in valve and out valve, all the fluid quick supply into hydro-cylinder.

BOOSTING: As the hydro-cylinder meets resistance, the dump valve closed, the low pressure fluid reach the head of piston HP, push the piston HP and LP down. when the piston LP reach the bottom, the low pressure fluid reach the top of auto-direction valve and push it down. After reversing, through auto-direction valve the low pressure fluid reach the bottom of piston LP, push the piston HP up. In the process of moving, the generator generate a continuous high pressure fluid delivering to the hydro-cylinder. when the piston HP reach the top, the top of auto-direction valve connect to port T and the low pressure fluid push it up. After another reversing, return to initial location. as the cycle repeats, the booster output a continuous high pressure fluid with a high-frequency oscillation which can reach 2000 times per minute.

COMPENSATING: The cycle repeat until the high pressure at the head of piston H meet the requirement. At that point the booster stops and will only start again to maintain the pressure.

UNLOADING: As the direction valve reverse, the low pressure of the system run into port T, open the dump valve, the high pressure of the hydro-cylinder being relieved to port P, and then back to the tank.





使用原因

WHY USE THE BOOSTER:

在常见液压系统中，因负载在设计轻量化、安装空间受限制等方面的原因，油缸所需要的工作压力往往会不一致，原始方案是用不同压力等级的液压油泵组成泵组来实现，低压泵实现负载油缸快进快退，高压泵提供小流量液压油驱动负载最后阶段的动作。在系统元器件选型时，都必需按最高压力来进行元器件选配，造价方面居高不下；另外从安全方面考虑，系统总体油路承受的压力越高，其安全性就越低，系统因泄漏产生的发热量也会越大，元件故障率会比低压系统高出很多。

In the common hydraulic system, due to the limited weight of equipment, limited space of installation and other reasons, the hydro-cylinder work in different pressure frequently, the original scheme is use a low and high pressure pump set system, the low pressure pump drive hydro-cylinder fast movement, and the high pressure pump provide greater force. However, in that system, all the hydraulic components must be satisfied the high pressure capacity, so it will be cause high costs, more inner leakage and low security.

Pascal 液压增压器在设计上完美地解决了以上的问题，将高压系统与低压系统完全地分开，低压的液压油通过增压器的自运循环增压后，直接进入高压负载，无需任何其它的高压控制元件，大大地降低了系统成本，提高了安全性，减少了系统的能量消耗，是最理想的液压高压乃至超高压解决方案。

Pascal hydraulic booster provide a perfect solution, separate the high pressure and low pressure completely. The hydraulic booster automatically boost the low pressure to higher pressure and then output directly to hydro-cylinder. without any other high pressure components, greatly reducing system costs, also improve safety.

适用工况

APPLICABLE:

1、局部高压系统。

High pressure requirement in part of the system.

2、整体高压系统。

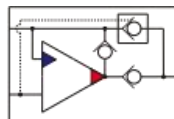
High pressure system.

3、静压高压系统。

Static pressure system.

* 液压增压器是任何实际应用领域最紧凑、最轻便的解决方案。

The hydraulic booster is the smallest and lightest solution in any high pressure industry.



典型案例分析 Analysis of typical cases

一、模具合模应用 Mould Clamping

注塑机、压铸机等设备在作业时，常用高低压泵组方案，要求主系统压力等级按最高压力设计。一方面，因主系统压力余量大，在性能上造成了很大的浪费；另一方面，系统工作压力越高，其故障率也会越高，用户使用中的维修工作也就越多，增加了使用成本。Pascal液压增压器在设计上非常完美地解决了这些问题。我们可以在模具开合油缸的入口加装大流量的液控单向阀，将液压增压器与该单向阀并联。当油缸快速动作时，大流量液压油可以通过液控单向阀而不影响其动作性能。油缸到位后，低压油经过增压器后转换成高压油输入油缸，实现锁模功能。当油缸内压力达到设定值后，增压器将自动停止工作，因泄漏造成的压力下降，会由增压器自动补压以维持锁模力不变。

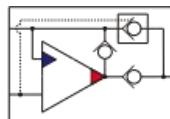
During the operation of injection molding machines, die-casting machines and other equipment, high and low pressure pump sets are commonly used, and the pressure level of the main system is required to be designed according to the highest pressure. On the one hand, due to the high pressure margin of the main system, a great waste of performance is caused. On the other hand, the higher the system pressure is, the higher failure rate will be, and the more maintenance work there will be, and increasing the cost. The Pascal hydraulic booster perfectly solves these problems in

design. We can add a high flow pilot-operated check valve at the inlet of the clamping cylinder, and parallel connect the Desihom hydraulic booster. When the cylinder moves quickly, the hydraulic oil can pass through the high flow pilot-operated check valve without affecting its performance. When the cylinder is in place, Desihom hydraulic booster boost the low pressure oil to higher one and input to the cylinder, then achieved mould clamping. When the pressure in the cylinder reaches the set value, the booster will stop working automatically. The pressure will drop due to leakage and the booster will compensate pressure automatically to maintain the clamping force.

二、机床夹具应用 Machine Fixture

随机床自动化技术的普及，液压夹具使用越来越广泛。使用液压增压器的机床夹具，可以在无须加装高压泵的情况下得到液压高压。我们可以将增压器与夹具做成一个集合体，夹具直接使用机床主液压系统3-6MPa的液压油。因夹具在快速动作方面不会有太大的流量需求，所以无需增压保护回路，只要在增压器P口加装精密过滤器即可达到其使用要求。系统中仅增压器一个高压部件，使用成本实现最小化，同时达到了最好的工作可靠性的最高的安全性。

With the popularization of automation machine fixture, hydraulic fixture are used more and more widely. The Desihom hydraulic booster can obtain high pressure



without use of the high pressure pump. Assemble desihom hydraulic booster to the fixture, and then directly connect the hydraulic oil of 3-6MPa of the main hydraulic system of the machine to the fixture. The hydraulic fixture does not need too much flow, there is no need the protection loop, install a filter at the P port of the booster. In the system, there is only one high pressure component, which can minimize the cost and achieve the highest safety and the best working reliability.

三、液压工具应用 Hydraulic Tools

液压工具要求重量轻、体积小，方便携带，并且可靠性高，安全性高。

现用超高压泵直接提供超高压液压油，超高压泵存在的问题有：

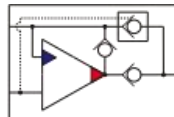
- 1、使用寿命短，一般可累计工作时间仅1000小时左右；
- 2、安全性不高，外接管路都是超高压软管，因频繁拖动容易造成安全隐串，超高压快插接头频繁使用后也是一个危险源；
- 3、成本高，系统里所有元器件，包括换向阀、过滤器、管路、压力表等都是超高压器件，造价是低压系统的3倍以上。

使用Pascal液压增压器，因增压器体积小，可以安装在液压工具上面，所有液压胶管、液压站等全部使用低压器件，可靠性更高、安全性更好、成本更低。因使用低压泵后发热量变小，体积可以做的更小，重量可以更轻。

Hydraulic tools require light weight, small size, easy to carry, and high reliability and safety. The existing ultra-high pressure hydraulic oil is directly provided by the ultra-high pressure pump. The existing problems of the ultra-high pressure pump are as follows:

- 1、Short service life, generally working time is only around 1000 hours;
- 2、The safety is not high, the external pipes are all ultra-high hoses, which is a potential risk due to frequent movement, and the ultra-high quick connector is also a risk factor;
- 3、High cost. All components in the system, including direction valve, filter, hoses and pressure gauge, are ultra-high pressure, and the cost is more than 3 times of that of low-pressure system.

Pascal hydraulic booster, with the small volume, can be installed at the end of the hydraulic tools, all hydraulic hoses, hydraulic system all use low-pressure components, higher reliability, better safety, lower cost, and volume will be smaller, weight will be lighter.



四、煤矿锚索作业 Coal Mine Anchor Cable Operation

煤矿锚索作业设备在功能上即是液压剪与拉伸器的组合，可分为锚索张拉机具及锚索剪切机具，配合矿用锚孔钻机作业。原传统方案都是用超高压手动泵提供液压超高压，每个作业面求要20人以上的班组才能作业。

使用Pascal液压增压器，可以从锚孔钻机底盘上直取16MPa的系统压力，输送给张拉、剪切作业的专用机械臂上的液压增压器，直接给机具输出超高压。因设备自动化程度高，作业面人员可降到10人以下，最大限度地提高了生产效率，降低了生产成本。

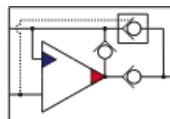
Coal mine anchor cable operation equipment is the combination of hydraulic shear and stretcher in function, which can be divided into anchor cable tensioning machine and anchor cable shearing machine, cooperating with mine anchor hole drilling machine. The traditional scheme is to use ultra-high pressure manual pump to provide hydraulic ultra-high pressure, each operating point requires more than 20 people.

The system pressure of 16 MPa can be directly taken from the chassis of the anchor holedrilling machine by using the Pascal hydraulic booster, which is transported to the hydraulic booster on the special mechanical arm for tension and shearing operation, and the super high pressure can be output directly to the machine tool. Because of the high degree of automation of the equipment, the operating point personnel can be reduced to less than 10 people, maximizing the production efficiency and reducing the production cost.

五、石油钻机-铁钻工应用 Iron Driller

铁钻工作为钻杆夹持机具，要求动作快、效率高，可靠性高。原方案使用高压泵，系统元器件均采购高压配置，系统发热量大，安全性低，成本高。使用德思宏液压增压器后，无需再加装高压泵，而且是瞬间发生高压，能以最小的能量消耗、最低的制做成本来达到使用要求，并且适合高频率的动作使用，提高其工作效率。

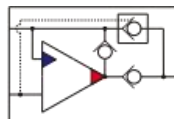
The drill pipe clamping device, which requires fast action, high efficiency and high reliability. The original scheme uses high-pressure pump, system components are purchased high-pressure configuration, system heat, low security, high cost. After using the Desihom hydraulic booster, no need to install a high pressure pump, and is instantaneous high-pressure, with the smallest energy consumption, the lowest manufacturing cost to meet the use requirements, and suitable for high-frequency operation, improve its efficiency. At present, the use of hydraulic booster to iron



六、矿山应用 Mining Equipment

液压劈裂机是矿山应用的典型。液压劈裂机通过70-120Mpa的液压超高压驱动劈裂枪，将大的石料整体劈裂，其设备应用方面有高污染、少保养等特点，超高压泵头在这种作业环境下使用寿命约3个月。通过使用德思宏液压增压器，我们可以设计更适合这种工况的系统，达到更长的使用寿命，并且提高工作效率、减少设备能耗。

Hydraulic splitter is a typical example of mining equipment. Hydraulic splitter splits large stone entirely through 70-120 Mpa hydraulic ultra-high pressure driving splitting gun. Its equipment has the characteristics of high pollution and less maintenance. The service life of ultra-high pressure pump is about 3 months in this operating environment. By using the Desihom hydraulic booster, we can design a system more suitable for this kind of working condition, achieve longer service life, and improve work efficiency, reduce equipment energy consumption.



选项说明



型号说明SELECTION METHOD

一、型号TYPE

BST:表示BOOSTER, 中文增压的意思。It means Booster

二、系列SERIES

T :tiny 微小的, 表示小流量系列, 输入流量最大约15L/min;

M :middle中等的, 表示中流量系列, 输入流量最大约35L/min;

L :Large大的, 表示大流量系列, 输入流量最大约100L/min;

X :X large, 表示特别大的, 输入流量最大约200L/min。

三、增压方式ACTING MODE

D :表示单向连续增压; 代号D可以省略。Single-acting, "D" can be omitted

S :表示双向连续增压。Dual-acting

四、卸荷功能UNLOADING FUNCTION

Y :表示集成了卸荷功能(默认为集成卸荷功能); Integrated

N :表示不带卸荷功能。Not Integrated

五、增压比举例RATIO E. G.

输出压力与输入压力的比值, 例如: 1.8倍, 2.5倍, 3.4倍, 4倍, 5倍, 7倍, 10倍。

The ratio of output pressure to input pressure. e. g. 2.5, 3.4, 4, 5, 7, 10.

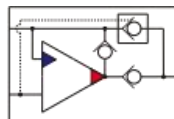
六、连接方式MOUNTING MODE

G :P、T进出口和HP高压输出口为螺纹式连接; Threaded mounting

F :P、T进出口和HP高压输出口为法兰式连接; Flange mounting

D :P、T进出口和HP高压输出口为叠加式连接; Stacking manifold

R :可旋转式输出口连接(可根据要求定做)。Rotary mounting(customized made)



选型方法SELECTION METHOD:

1、根据低压输入流量选择增压器系列；

Select the booster series according to low pressure input flow.

2、根据低压输入压力和高压输出压力选择增压比例；

Select the booster ratio according to the output pressure and input pressure

3、根据系统布管要求选择连接方式；

Select the mounting mode according to the requirements of system layout.

4、其他要求。Other requirements

选型实例EXAMPLE:

现有一高压油缸需要60Mpa的超高压，所需超高压流量为1-1.5升每分钟，低压输入压力为0-25Mpa可调。

One high-pressure cylinder requires 60 Mpa of ultra-high pressure, required ultra-high pressure flow rate of 1-1.5 litres per minute, input pressure of 0-25 Mpa adjustable.

增压器选配步骤如下：The selection steps are as follows:

第一步：选定增压比。与参数表核对，T系列小流量3.4倍增压比输出压力值与该需求相近，暂定增压比为3.4倍；

Step one: select the booster ratio. Check parameter table ,The booster which boost ratio of 3.4 of T series is similar to the demand, Temporary select ratio of 3.4 .

第二步：校核输出流量。T系列小流量3.4倍增压比的最大流量为2.7升每分钟，高压输出流量为1.2升每分钟，基本符合要求；

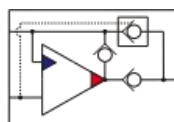
The second step: Check output flow. The maximum flow of T series rate of 3.4 is 2.7 L/min, and we need the high-pressure output flow rate is 1.2 L/min, so it meets the requirements;

第三步：校核输入压力。该增压比达到60Mpa所需的输入压力值为 $60/3.4=17.65$ Mpa, 此时低压泵工作在高效率区间，压力适中；

The third step: Check the input pressure. The input pressure required for the boost ratio to reach 60 Mpa is $60/3.4 = 17.65$ Mpa, this pressure is in the high efficiency range of the pump.

第四步：选定型号。根据以上推断，可选定型号为BST-TY-3.4G, 系统设计时注意连接接头为G1/4。

The fourth step: Confirm the selection model . According to the above inference, the optional model is BST-TY-3.4G, the system design should pay attention to the connection of G1/4.

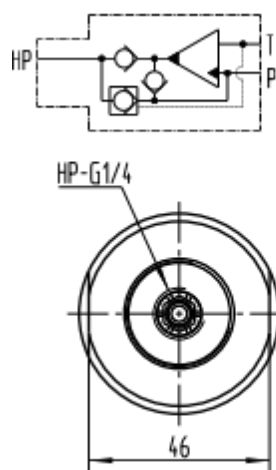


T系列管式 T Series Thieaded Mounting

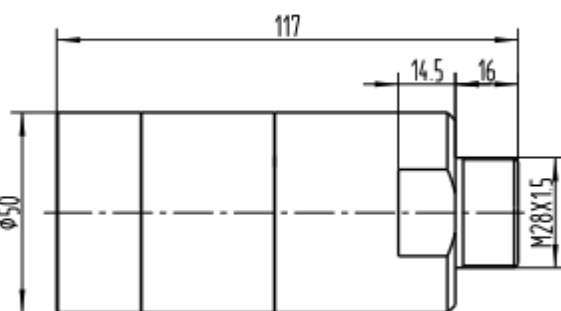
参数表

PARAMETER TABLE

增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.8	16	4.6	250	450	1960
2.5	15	3.45	250	625	2020
3.4	15	2.70	250	850	2160
4.0	14	2.17	250	1000	2100
5.0	14	1.8	200	1000	2190
7.0	13	1.23	144	1000	2120
10.0	8	0.55	100	1000	1360



管式安装尺寸
Dimensions of Threaded Mounting



长度单位: 毫米
重量: 1.5公斤

Unit :mm
Weight: 1.5KG

其他: 可以和锁紧螺母或安装板连接

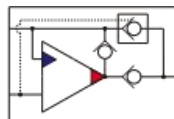
Others: It can be connected to the locknut or mounting plate.

T小流量系列增压器以其方便灵活的安装方式, 非常广泛地应用于各个行业产品的高压发生部分, 用单一的增压元件替代了由高压泵、高压管路、高压控制件等组成的高压系统, 为产品最大限度地降低了制做成本, 提高了产品的可靠性、安全性。

T series booster is widely used in the high pressure parts of various industries because of its convenient and flexible mounting. It replaces the high pressure system composed of high pressure pump, high pressure pipeline and high pressure control components, thus lowering the manufacturing cost and improving reliability and safety of the products.

选型示例: BST-TN-4.0G T系列增压器, 不带卸荷功能, 4倍率增压比, 管式连接

Example: BST-TN-4.0G T series, no unloading function, intensification factors is 4, threaded mounting.



T系列叠加式 T Series Stacking Manifold

参数表同管式(略)

PARAMETER TABLE Same as Threaded Mounting

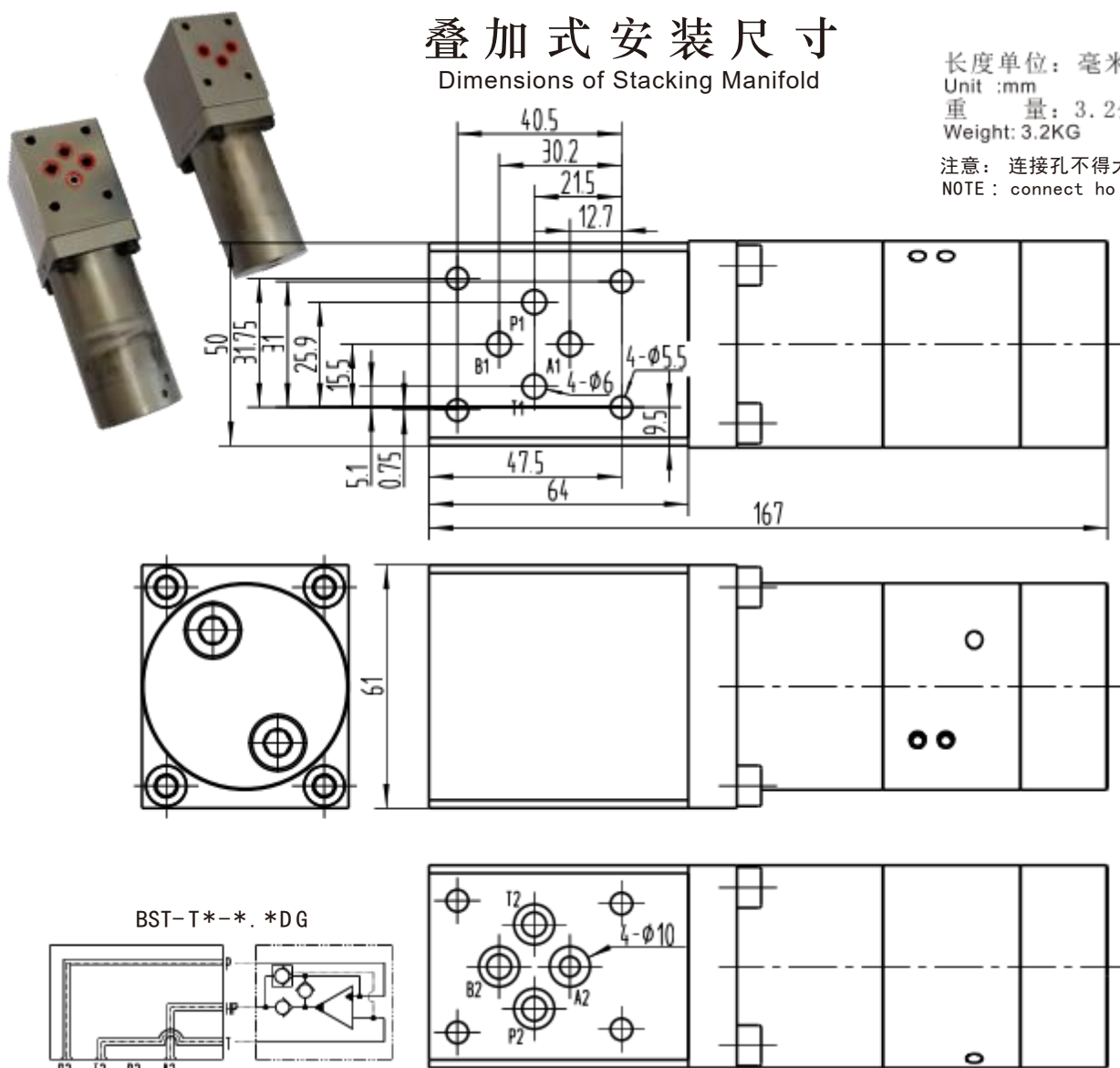
叠加式安装尺寸

Dimensions of Stacking Manifold

长度单位: 毫米
Unit :mm

重量: 3.2公斤
Weight: 3.2KG

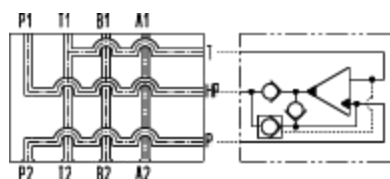
注意: 连接孔不得大于6mm
NOTE : connect hole ≤6mm



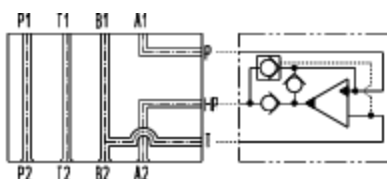
注意: 此型号安装尺寸中P1, T1, A1, B1, B2油口未打
NOTE : This type without P1, T1, A1, B1, B2

油路符号
Oil Channels

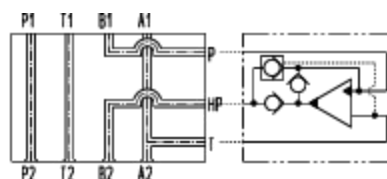
BST-T*-*.*DG



BST-T*-*.*DA



BST-T*-*.*DB

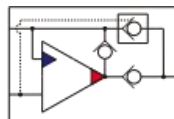


选型示例: BST-TY-1.8DP T系列增压器, 带卸荷功能, 1.8倍率增压比, 叠加式连接, P增压

BST-TN-4.0DA T系列增压器, 不带卸荷功能, 4倍率增压比, 叠加式连接, A增压

Example : BST-TY-1.8DP T series, with unloading function, intensification factors is 1.8, Stacking Manifold, P boost

BST-TN-4.0DA T series, no unloading function, intensification factors is 4, Stacking Manifold, A boost



T系列低压法兰式 T Series DFange Mounting

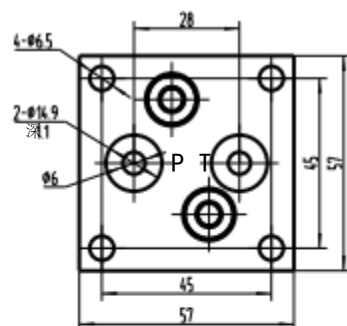
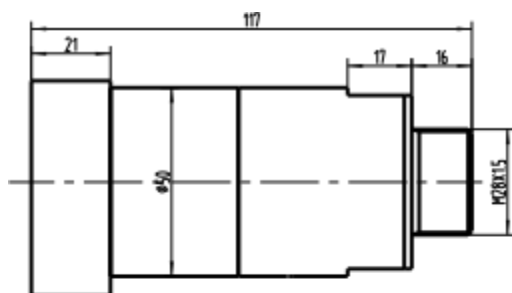
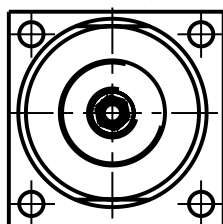
参数表同管式(略)

PARAMETER TABLE Same as Threaded Mounting



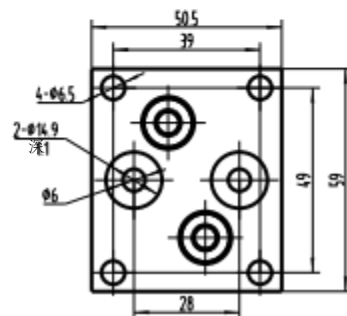
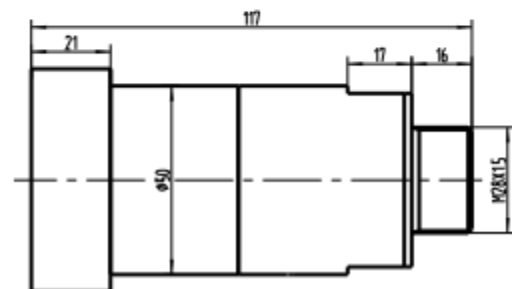
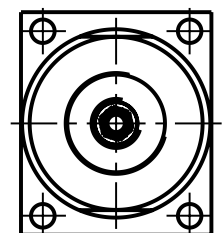
DFA安装尺寸

Dimensions of DFA Manifold



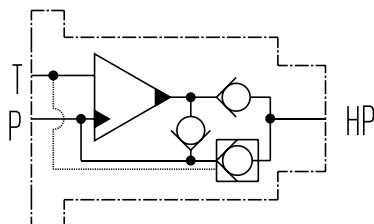
DFB安装尺寸

Dimensions of DFB Manifold



油路符号

Oil Channels



长度单位：毫米 Unit: mm
重量:1.7公斤 Weight:1.5kg

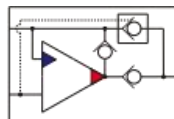
注意：连接孔不得大于6mm
NOTE : connect hole ≤6mm

选型示例:BST-TY-1.8DFA T系列增压器，带卸荷功能，1.8倍率增压比，低压法兰连接，A型

BST-TN-4.0DFB T系列增压器，不带卸荷功能，4倍率增压比，低压法兰连接，B型

Example :BST-TY-1.8DFA T series,with unloading function ,intensification factors is 1.8 ,DFA Manifold

BST-TN-4.0DFB T series,no unloading function ,intensification factors is 4 ,DFB Manifold

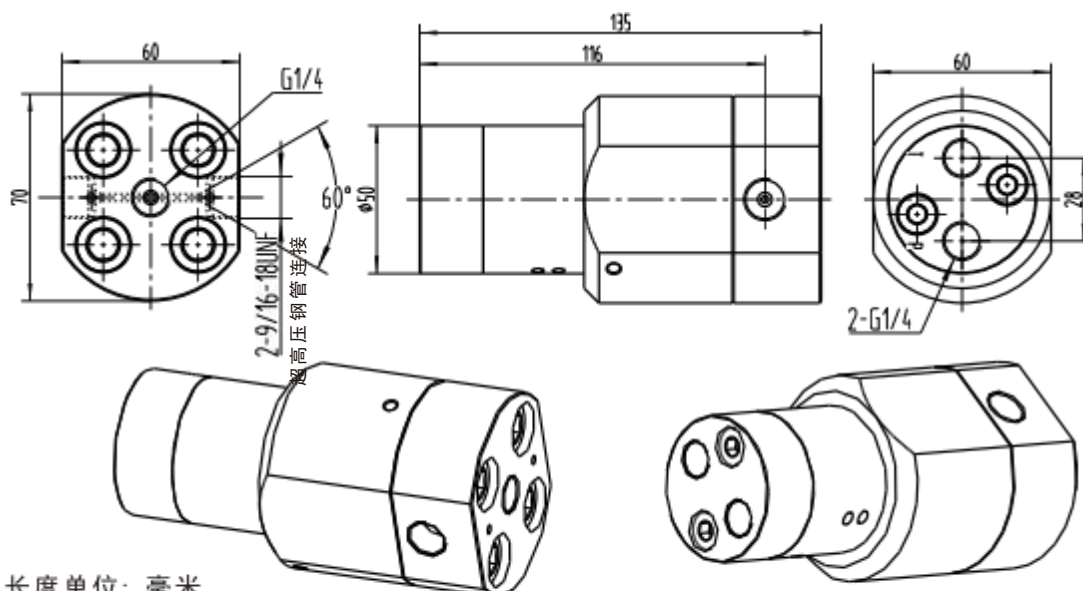


TG系列高压 TG Series High Pressure

参数表
PARAMETER TABLE



增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
7.0	13	1.23	250	1750	2120
10	8	0.55	200	2000	1360



长度单位: 毫米

重量: 2.8公斤

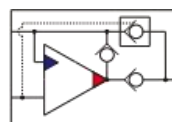
安装方式: 低压管式连接G1/4, 高压9/16-18UNF和G1/4螺纹连接
其他: 可以和安装板连接

Unit :mm

Weight: 2.8KG

Mounting: Low pressure G1/4, high pressure 9/16-18UNF and G1/4 threaded connection.

Others: It can be connected to the mounting plate

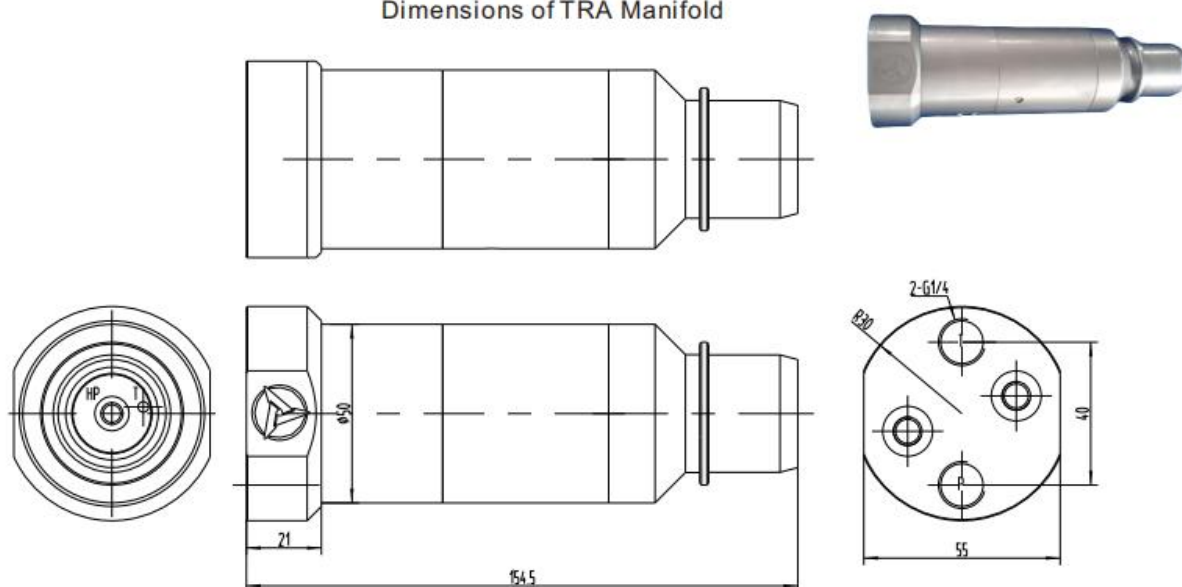


TR救援增压器 TR Series rescue booster

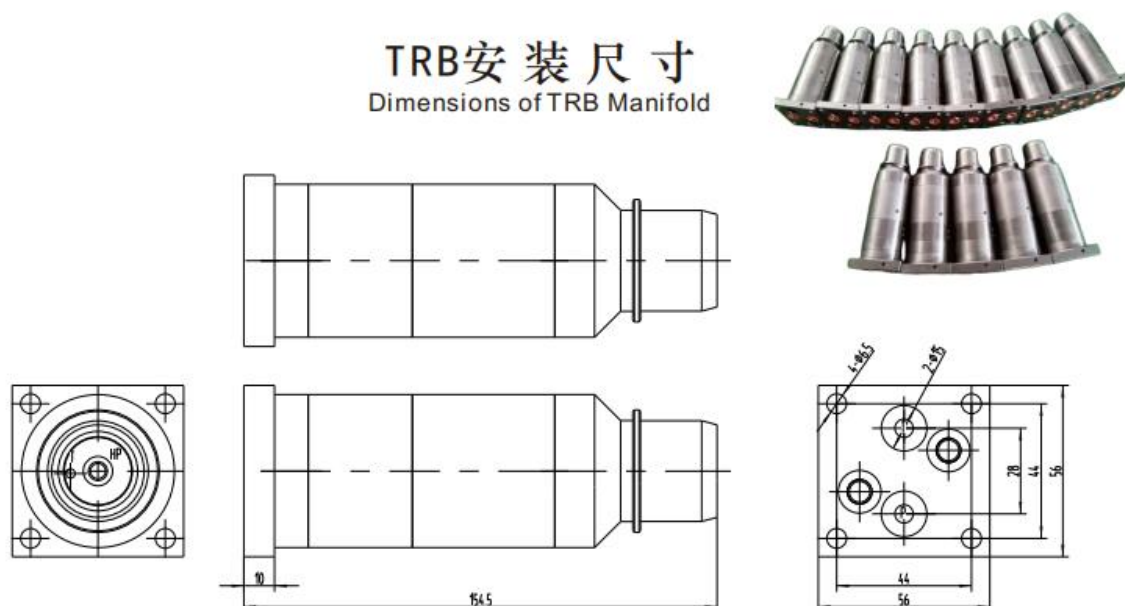
表同管式

PARAMETER TABLE Same as Threaded Mounting

TRA安装尺寸 Dimensions of TRA Manifold



TRB安装尺寸 Dimensions of TRB Manifold



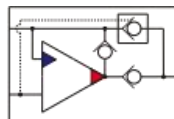
选型示例: BST-TRAY-3.4 TRA系列增压器, 带卸荷功能, 3.4倍率增压比

BST-TRBN-4.0 TRB

4

Example: BST-TRAY-3.4 TR series, with unloading function, intensification factors is 3.4

BST-TRBN-4.0 TR series, no unloading function, intensification factors is 4



TS系列管式 TS Series Threaded Mounting



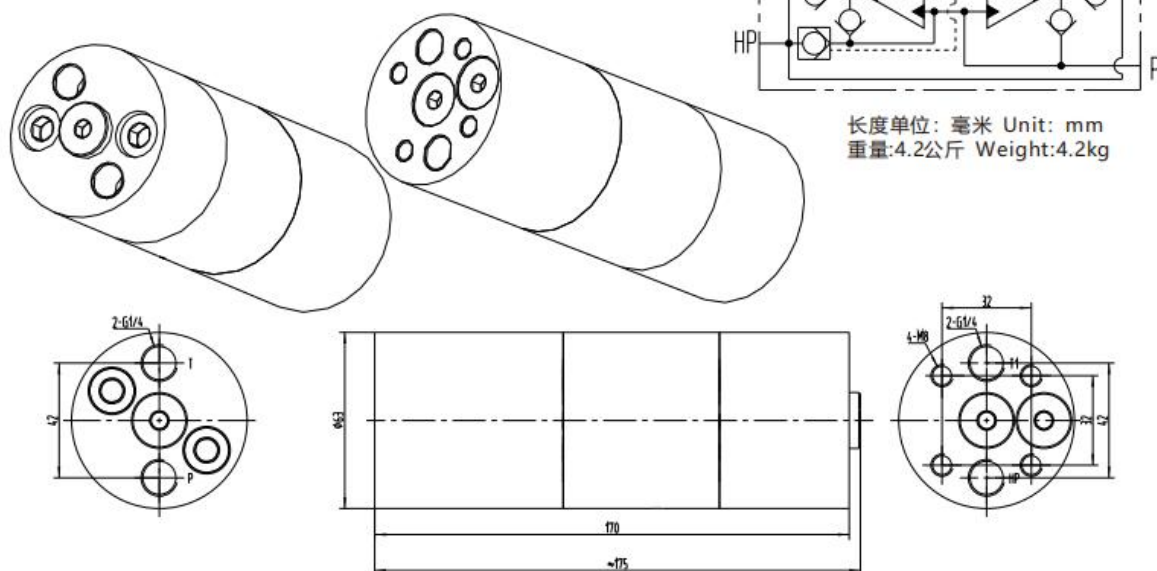
参数表

PARAMETER TABLE

增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.8	25	12.7	250	450	1820
2.5	25	9	250	625	1820
3.5	25	6.1	250	875	1820
4.6	25	4.6	217	1000	1820
5.5	25	3.9	182	1000	1820
6.9	25	2.9	145	1000	1820
9.5	25	2.2	105	1000	1820

安装尺寸

Dimensions

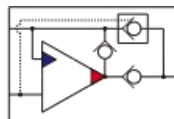


TS系列增压器为双向往复增压器，相对于单向往复增压器，其输出压力波动小，流量转化率高，反应更灵敏。

选型示例: BST-TSY-2.5G TS系列增压器，带卸荷功能，2.5倍率增压比，管式连接

TS series booster is duan-acting booster,Its output pressure fluctuation is small, flow conversion rate is high, and the response is more sensitive.

Example: BST-TSY-2.5G TS series,with unloading function, intensification factors is 2.5,threaded Manifold



TS系列法兰式 TS Series Flange Mounting

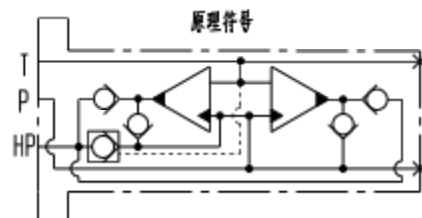
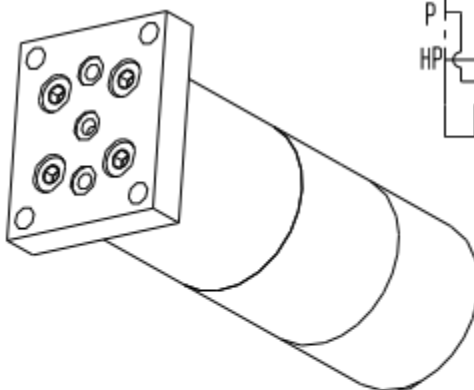
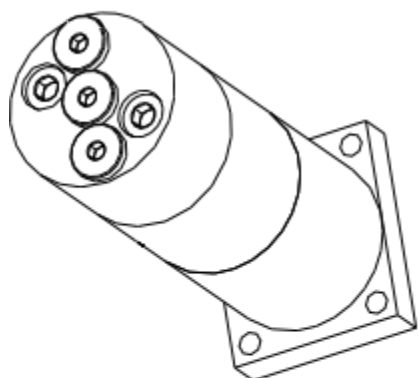
参数表

PARAMETER TABLE

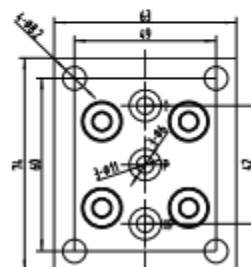
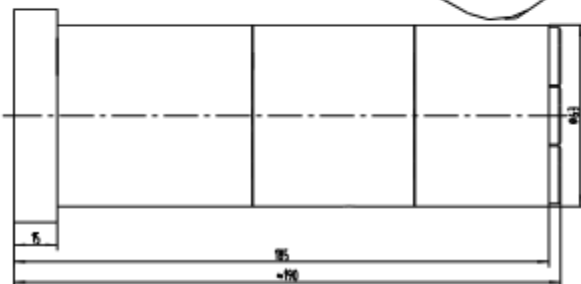
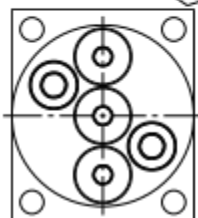
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.8	25	12.7	250	450	1820
2.5	25	9	250	625	1820
3.5	25	6.1	250	875	1820
4.6	25	4.6	217	1000	1820
5.5	25	3.9	182	1000	1820
6.9	25	2.9	145	1000	1820
9.5	25	2.2	105	1000	1820



安装尺寸 Dimensions



长度单位：毫米 Unit: mm
重量:4.7公斤 Weight:4.7kg

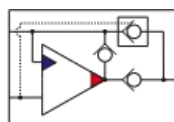


TS系列增压器为双向往复增压器，相对于单向往复增压器，其输出压力波动小，流量转化率高，反应更灵敏。

选型示例:BST-TSY-2.5F TS系列增压器，带卸荷功能，2.5倍率增压比，法兰式连接

TS series booster is duan-acting booster,Its output pressure fluctuation is small, flow conversion rate is high, and the response is more sensitive.

Example :BST-TSY-2.5G TS series,with unloading function, intensification factors is 2.5,F lange Manifold



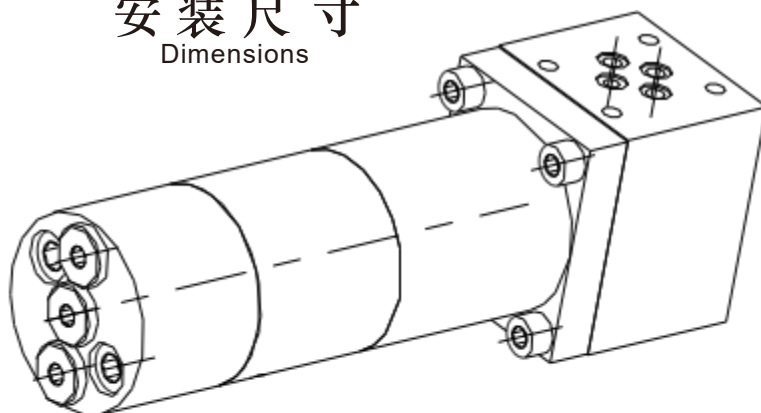
TS系列叠加式 TS Series Stack Mounting

参数表同管式

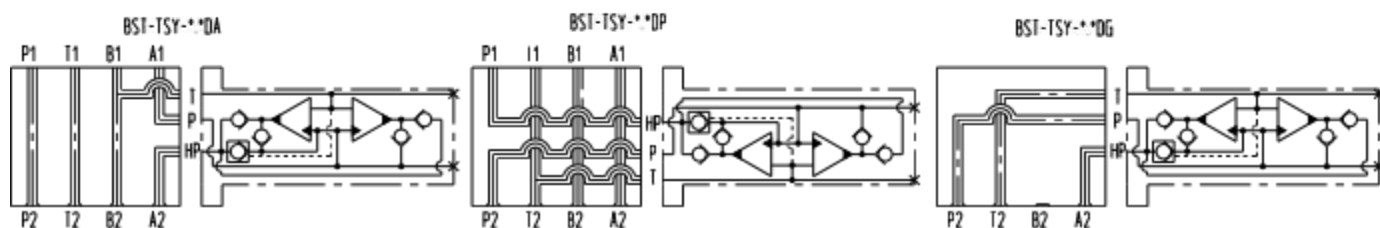
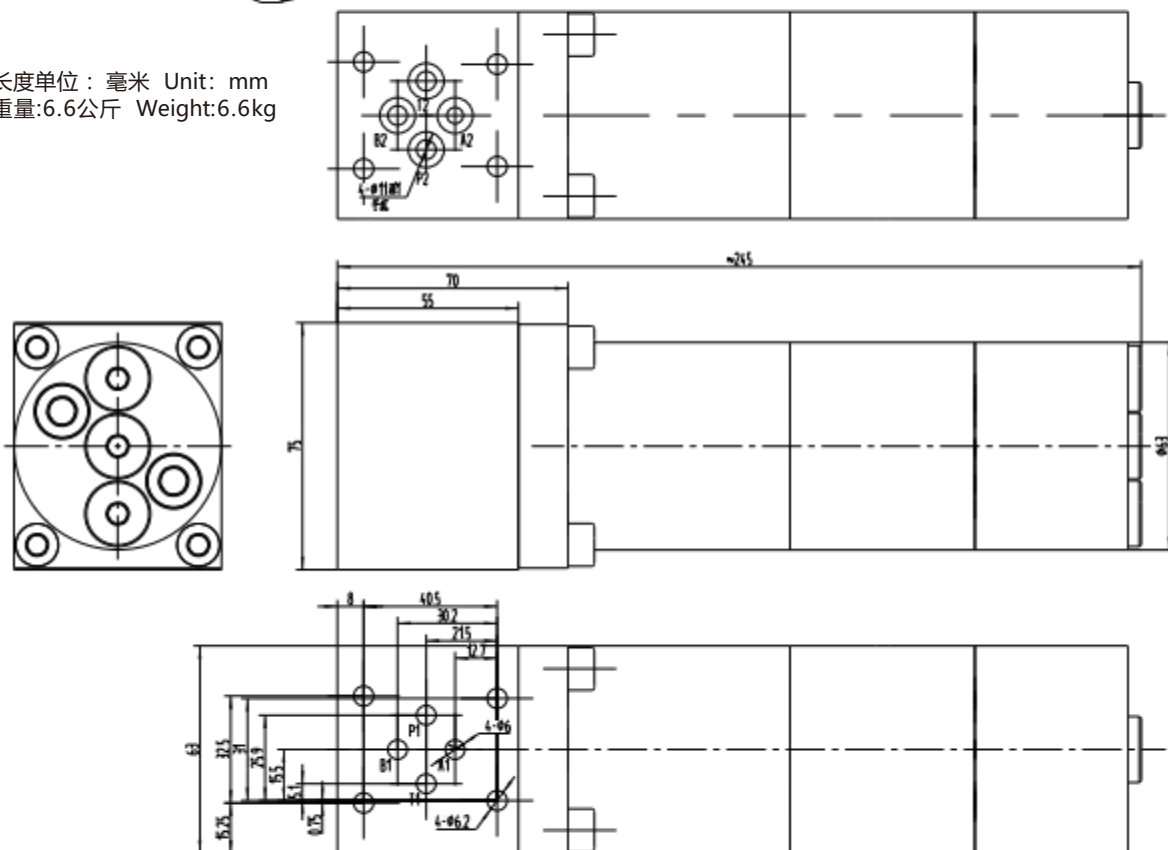
PARAMETER TABLE Same as Threaded Mounting

安装尺寸

Dimensions

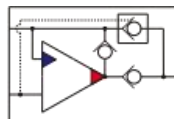


长度单位：毫米 Unit: mm
重量:6.6公斤 Weight:6.6kg



选型示例: BST-TSY-2.5DA TS系列增压器, 带卸荷功能, 2.5倍率增压比, 叠加式连接, A口增压

Example : BST-TSY-2.5DA TS series ,with unloading function , intensification factors is 2.5,Stack ing Manifold , A boost



M系列管式 M Series Threaded Mounting



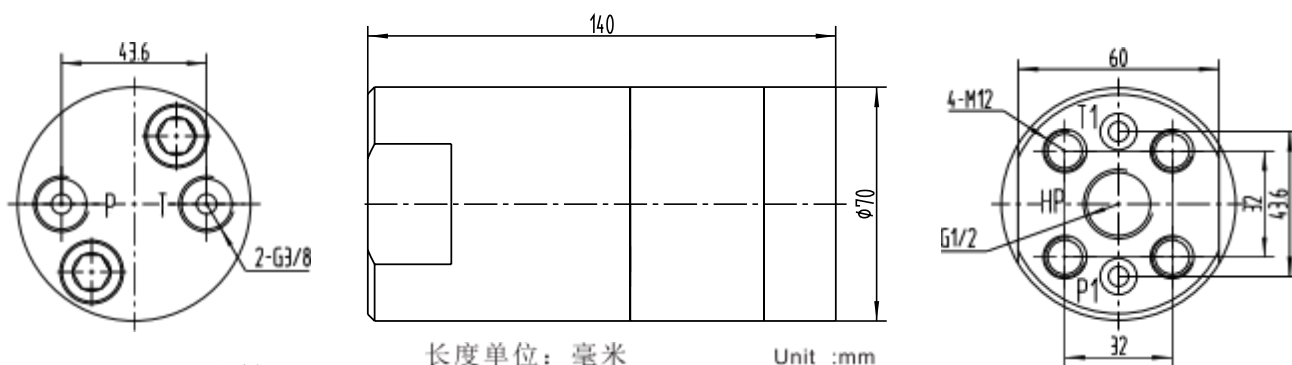
参数表

PARAMETER TABLE

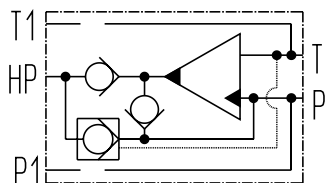
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.9	35	10	250	475	1730
2.5	35	8.3	250	625	1880
3.4	35	6.4	250	850	2040
4.0	35	5.6	250	1000	2100
5.0	35	4.5	200	1000	2190
7.0	30	2.8	144	1000	1960
10.0	25	1.5	100	1000	1700

管式安装尺寸

Dimensions of Threaded Mounting



油路符号
Oil Channels



长度单位：毫米
重量：3.4公斤
其他：可以和安装板连接
Unit :mm
Weight: 3.4KG
Others: It can be connected to the mounting plate.

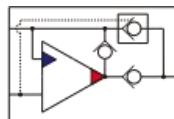
注意：默认T和T1不通，P和P1不通，可以根据要求打通。
Note : T and T1 didn't get through, P and P1 didn't get through.

M系列增压器输出流量大，非常适合快速合模，锁紧系统，工程夹具，矿山机械等的应用。

选型示例：BST-MY-1.9G M系列增压器，带卸荷功能，1.9增压比例，管式连接

M series booster with larger output flow is very suitable for rapid die fitting, locking system, engineering fixture, mining machinery and other applications.

Example : BST-MY-1.9G M series booster with unloading function, intensification factors is 1.9 and threaded connection.



M系列低压法兰式 M Series DF Mounting

参数表

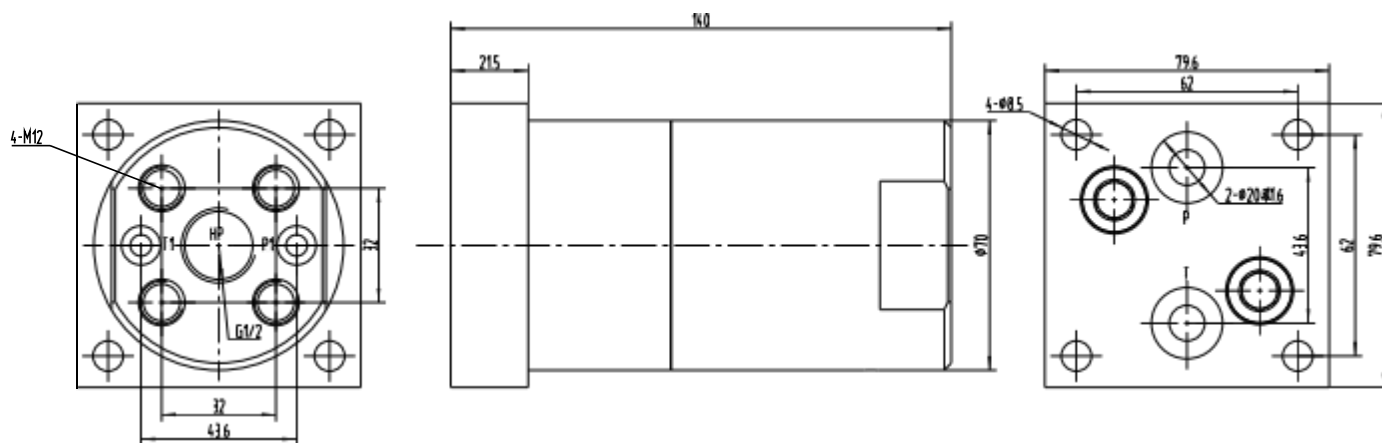
PARAMETER TABLE

增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.9	35	10	250	475	1730
2.5	35	8.3	250	625	1880
3.4	35	6.4	250	850	2040
4.0	35	5.6	250	1000	2100
5.0	35	4.5	200	1000	2190
7.0	30	2.8	144	1000	1960
10.0	25	1.5	100	1000	1700

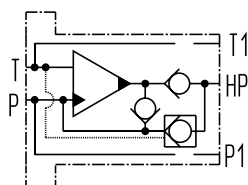


低压法兰 安装尺寸

Dimensions of DF Mounting



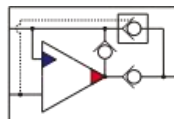
油路符号
Oil Channels



长度单位：毫米 Unit: mm
重量:3.8公斤 Weight:3.8kg

选型示例：BST-MY-1.9DF M系列增压器，带卸荷功能，1.9增压比例，低压法兰连接

Example : BST-MY- 1.9DF M series booster with unloading function, intensification factors is 1.9 and DF connection.



M系列双通道式 M Series SG Mounting



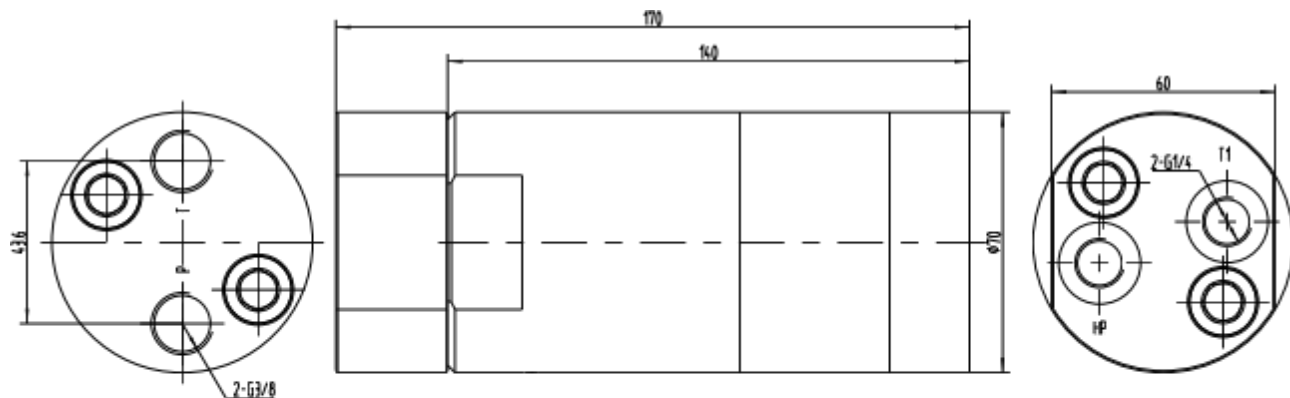
参数表

PARAMETER TABLE

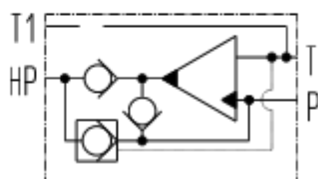
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.9	35	10	250	475	1730
2.5	35	8.3	250	625	1880
3.4	35	6.4	250	850	2040
4.0	35	5.6	250	1000	2100
5.0	35	4.5	200	1000	2190
7.0	30	2.8	144	1000	1960
10.0	25	1.5	100	1000	1700

M系列双通道 安装尺寸

Dimensions of SG Mounting



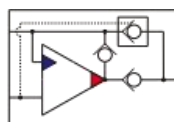
油路符号
Oil Channels



长度单位：毫米 Unit: mm
重量:4公斤 Weight:4kg

选型示例:BST-MY-1.9SG M系列增压器,带卸荷功能,1.9增压比例,双通道连接

Example :BST-MY-1.9SG M series booster with unloading function, intensification factors is 1.9 and SG connection.



M系列法兰式 M Series Flange Mounting



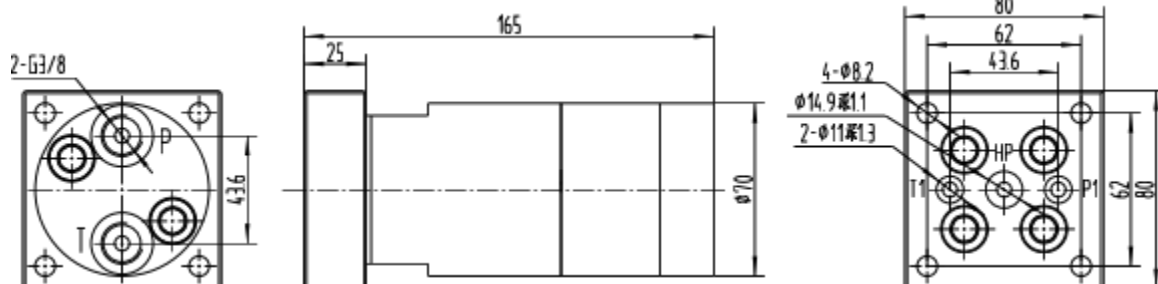
参数表

PARAMETER TABLE

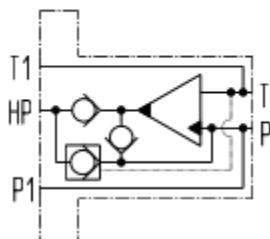
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.9	35	10	250	475	1730
2.5	35	8.3	250	625	1880
3.4	35	6.4	250	850	2040
4.0	35	5.6	250	1000	2100
5.0	35	4.5	250	1250	2190
7.0	30	2.8	250	1750	1960
10.0	25	1.5	250	2500	1700

法兰式安装尺寸

Dimensions of Flange Mounting



油路符号
Oil Channels

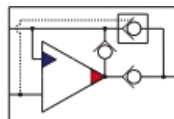


长度单位：毫米 Unit :mm
重量：4.4公斤 Weight: 4.4KG
其他：可以和安装板连接 Others: It can be connected to the mounting plate.

注意：默认T和P采用ED堵头堵上。
Note : T and P is plugged with ed plug .
P1, T1口连接孔不得大于6mm, HP口不得大于10mm.
NOTE : P1&T1 connect hole ≤6mm, HP≤10mm.

选型示例：BST-MY-1.9F M系列增压器，带卸荷功能，1.9增压比例，法兰式连接

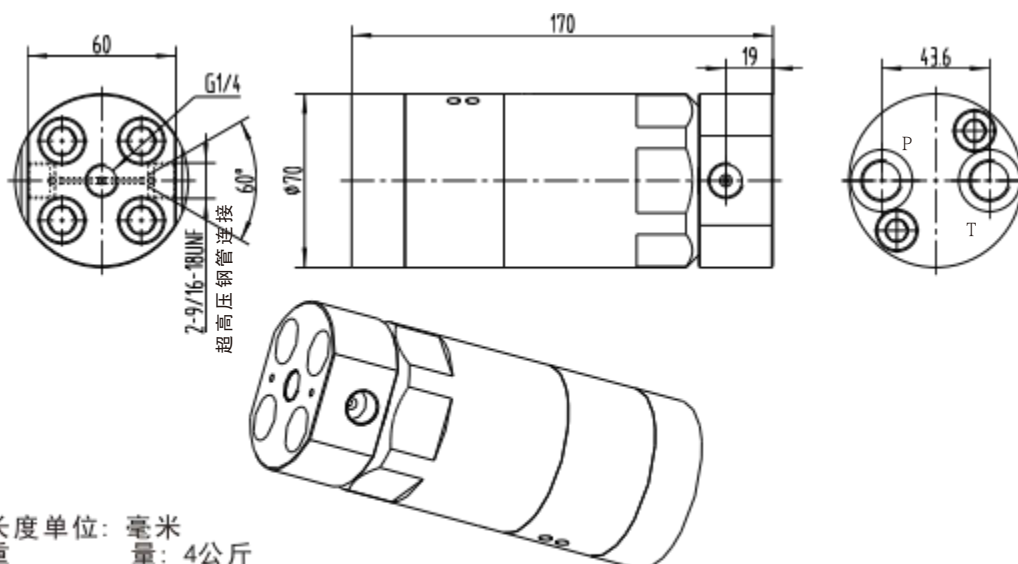
Example :BST-MY-1.9F M series booster with unloading function, intensification factors is 1.9 and Flange Mounting.



MG高压系列 MG Series High Pressure



增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
7.0	30	3	200	1400	1980
10	30	2	200	2000	2060



长度单位: 毫米

重量: 4公斤

安装方式: 低压管式连接G3/8, 高压9/16-18UNF和G1/4螺纹连接

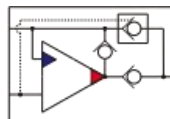
其他: 可以和安装板连接

Unit :mm

Weight: 4KG

Mounting: Low pressure G3/8, high pressure 9/16-18UNF and G1/4 threaded connection.

Others: It can be connected to the mounting plate



L系列管式 L Series Threaded Mounting



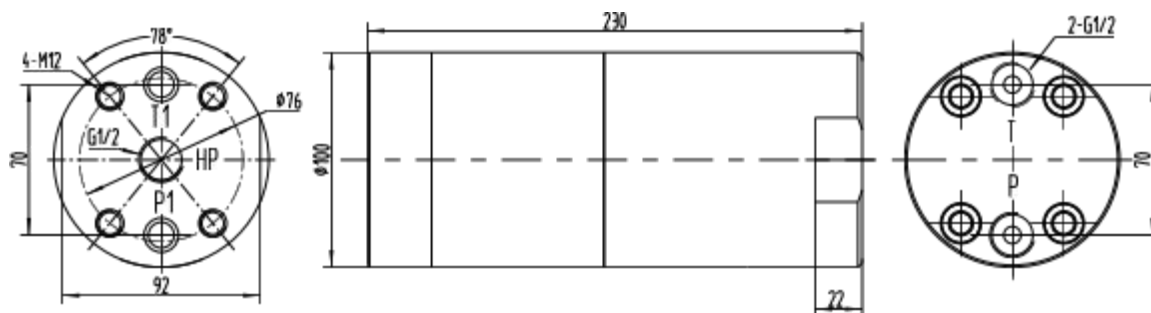
参数表

PARAMETER TABLE

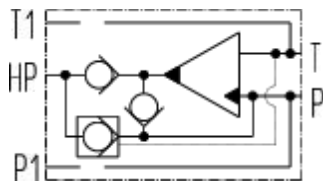
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.4	100	38.5	250	350	635
2.0	100	30	250	500	727
3.2	100	21.6	250	800	820
4.5	100	16	222	1000	880
6.0	90	10.7	166	1000	833
8.0	80	7.3	125	1000	765
11	50	3.1	91	1000	493

管式安装尺寸

Dimensions of Threaded Mounting



油路符号
Oil Channels



长度单位：毫米
重量：12公斤

Unit:mm
Weight : 12kg

注意：默认T和T1不通，P和P1不通，可以根据要求打通。

Note: T and T1 didn't get through, P and P1 didn't get through.

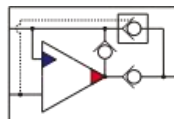
L

系列增压器输出流量非常大，适合快速大型工程机械，矿山设备等的。

选型示例：BST-LY-2.0G L系列增压器，带卸荷功能，2.0增压比例，管式连接

L series booster with larger output flow is very suitable for engineering fixture, mining machinery and other applications.

Example :BST-LY-2.0G L series booster with unloading function, intensification factors is 2.0 and threaded connection.



L系列法兰式 L Series Flange Mounting



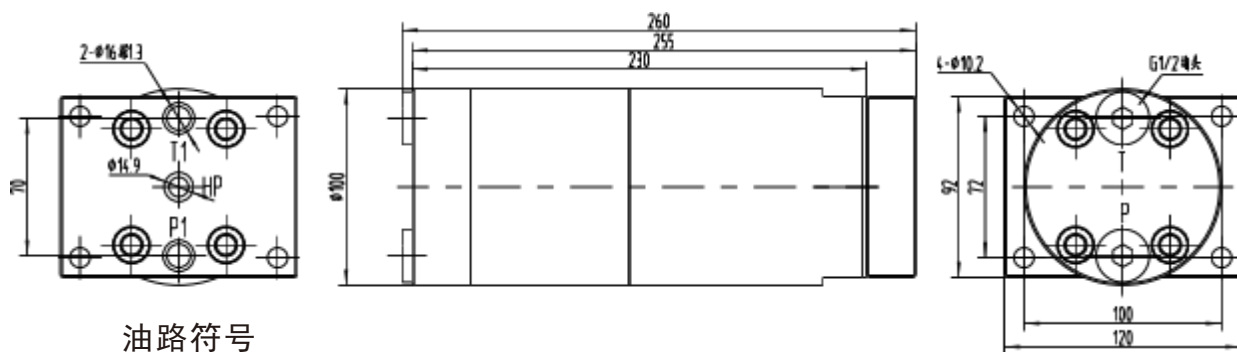
参数表

PARAMETER TABLE

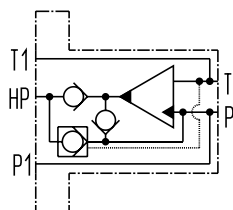
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.4	100	38.5	250	350	635
2.0	100	30	250	500	727
3.2	100	21.6	250	800	820
4.5	100	16	250	1125	880
6.0	90	10.7	250	1500	833
8.0	80	7.3	250	2000	765
11	50	3.1	250	2750	493

法兰式 安装尺寸

Dimensions of Flange Mounting



油路符号
Oil Channels



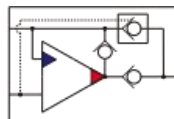
长度单位：毫米
重量：14公斤

Unit : mm
Weight : 14kg

注意：默认T和P采用ED堵头堵上。
Note : T and P is plugged with ed plug .
P1, T1, HP口连接孔不得大于10mm.
NOTE : P1&T1&HP connect hole ≤10mm.

选型示例：BST-LY-8.0F L系列增压器，带卸荷功能，8.0增压比例，法兰式连接

Example : BST-LY-8.0F L series booster with unloading function, intensification factors is 8.0 and Flange Mounting.



LG系列高压式 LG Series Mounting



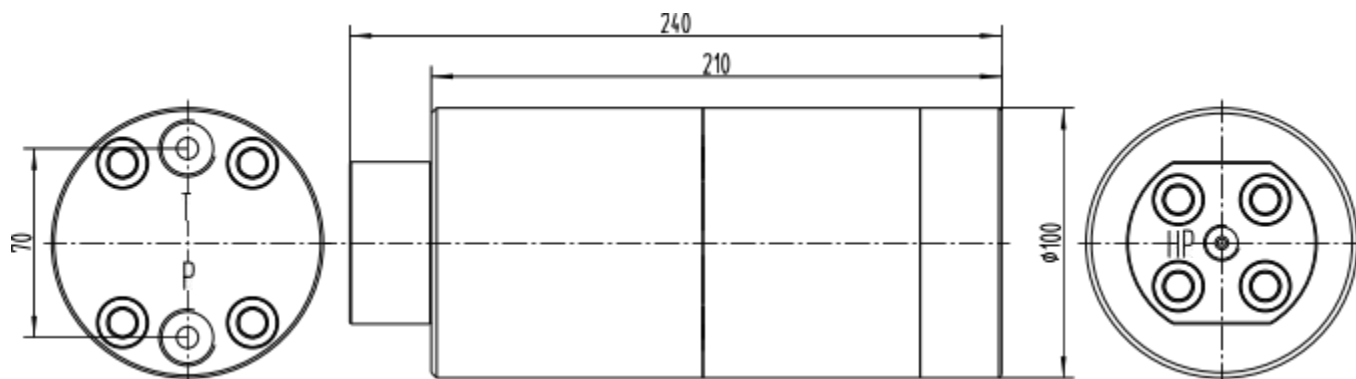
参数表

PARAMETER TABLE

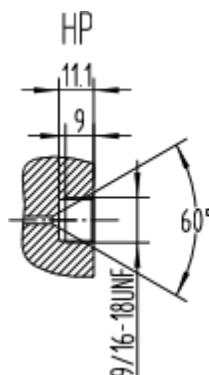
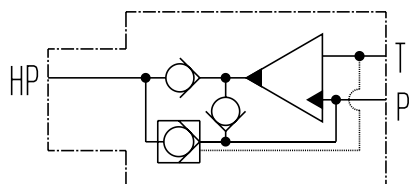
增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
20	50	1.5	200	4000	510

LG 安装尺寸

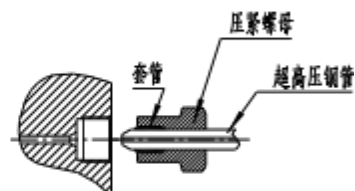
Dimensions of LG Mounting



油路符号
Oil Channels



装配示意图

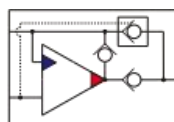


长度单位：毫米
重量：15公斤

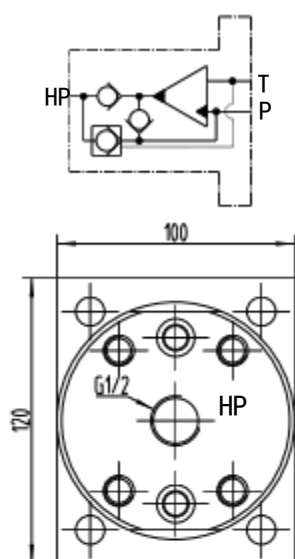
Unit : mm
Weight : 15kg

选型示例：BST-LGN-20G L系列增压器，不带卸荷功能，20增压比例，LG高压式连接

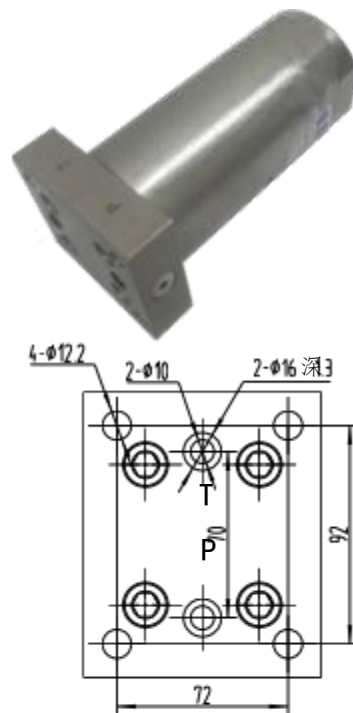
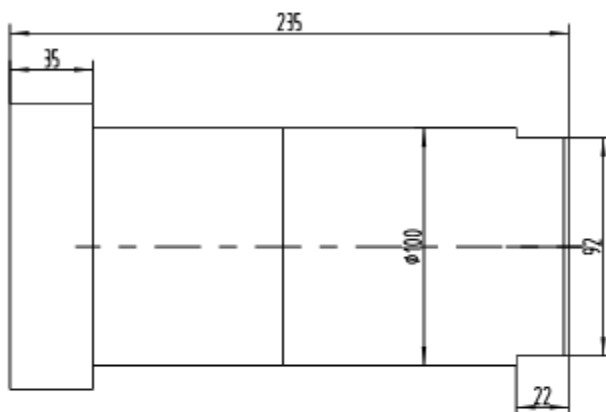
Example : BST-LGN-20G L series booster no unloading function, intensification factors is 20 and LG Mounting.



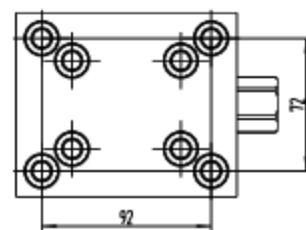
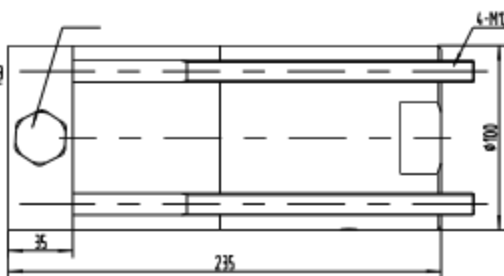
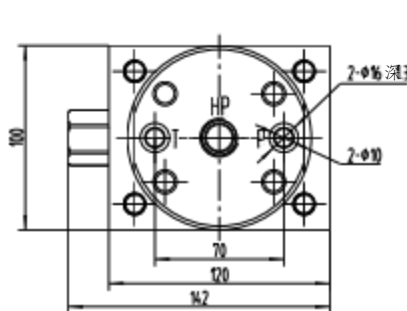
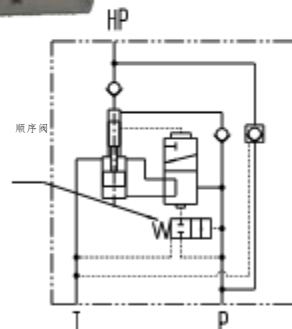
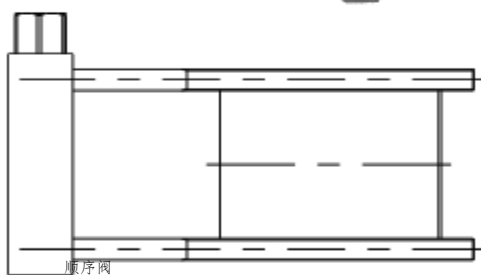
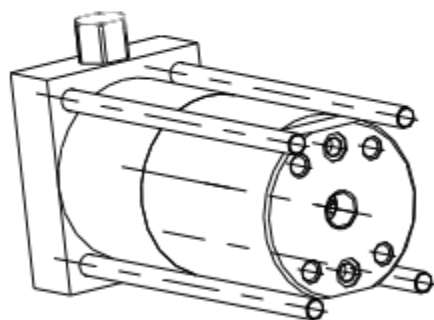
L系列低压法兰式 L Series Low Flange



低压法兰式 安装尺寸 Dimensions of Low Flange Mounting



L系列顺序式 L Series Sequence



长度单位：毫米
重 量：14公斤

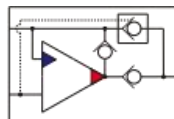
Unit : mm
Weight : 14kg

选型示例: BST-LY-8.0DF L系列增压器, 带卸荷功能, 8.0增压比例, 低压法兰式连接

Example : BST-LY-8.0F L series booster with unloading function, intensification factors is 8.0 and Low FlangeMounting.

BST-LY-2.0S L系列增压器, 带卸荷功能, 2.0增压比例, 顺序式连接

BST-LY-2.0S L series booster with unloading function, intensification factors is 2.0 and sequence



LS系列管式 LS Series Threaded Mounting



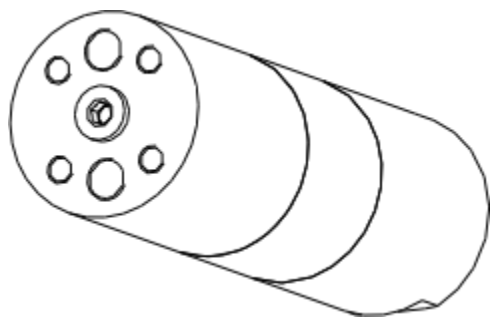
参数表

PARAMETER TABLE

增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.4	100	65	250	350	754
2.0	100	44.6	250	500	754
3.2	100	28.7	250	800	754
4.5	100	19.6	222	1000	754
6.0	100	14.2	166	1000	754
8.0	100	10.4	125	1000	754
11	100	7.9	91	1000	754

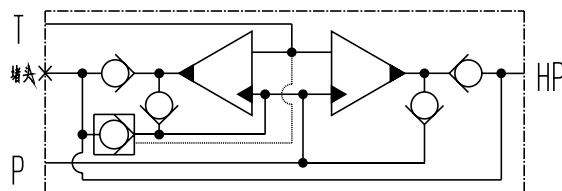
管式安装尺寸

Dimensions of Threaded Mounting

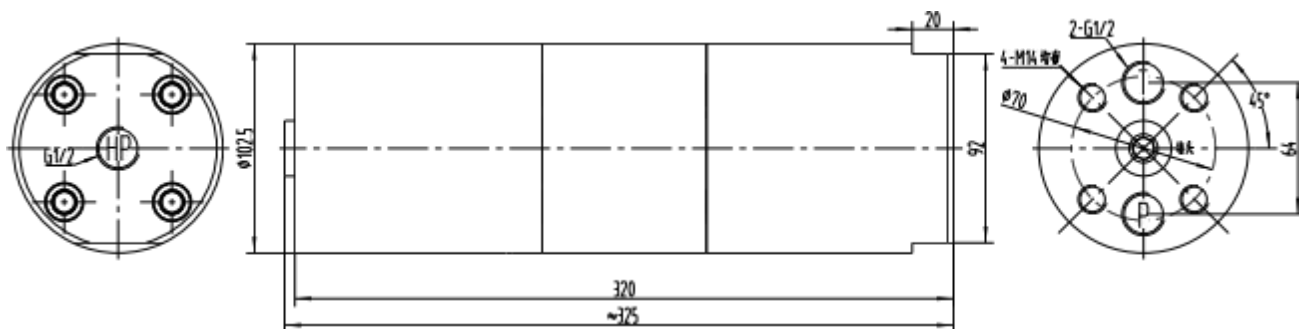


油路符号

Oil Channels



长度单位：毫米 Unit:mm
重量：19公斤 Weight：19kg

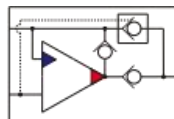


LS系列增压器波动小，输出流量非常大，适合快速大型工程机械，矿山设备，测试设备等的應用。

选型示例：BST-LSY-2.0G LS系列增压器，带卸荷功能，2.0增压比例，管式连接

LS series booster with larger output flow and small fluctuation, is very suitable for engineering fixture, mining machinery, testing and other applications.

Example：BST-LSY-2.0G LS series booster with unloading function, intensification factors is 2.0 and threaded connection.



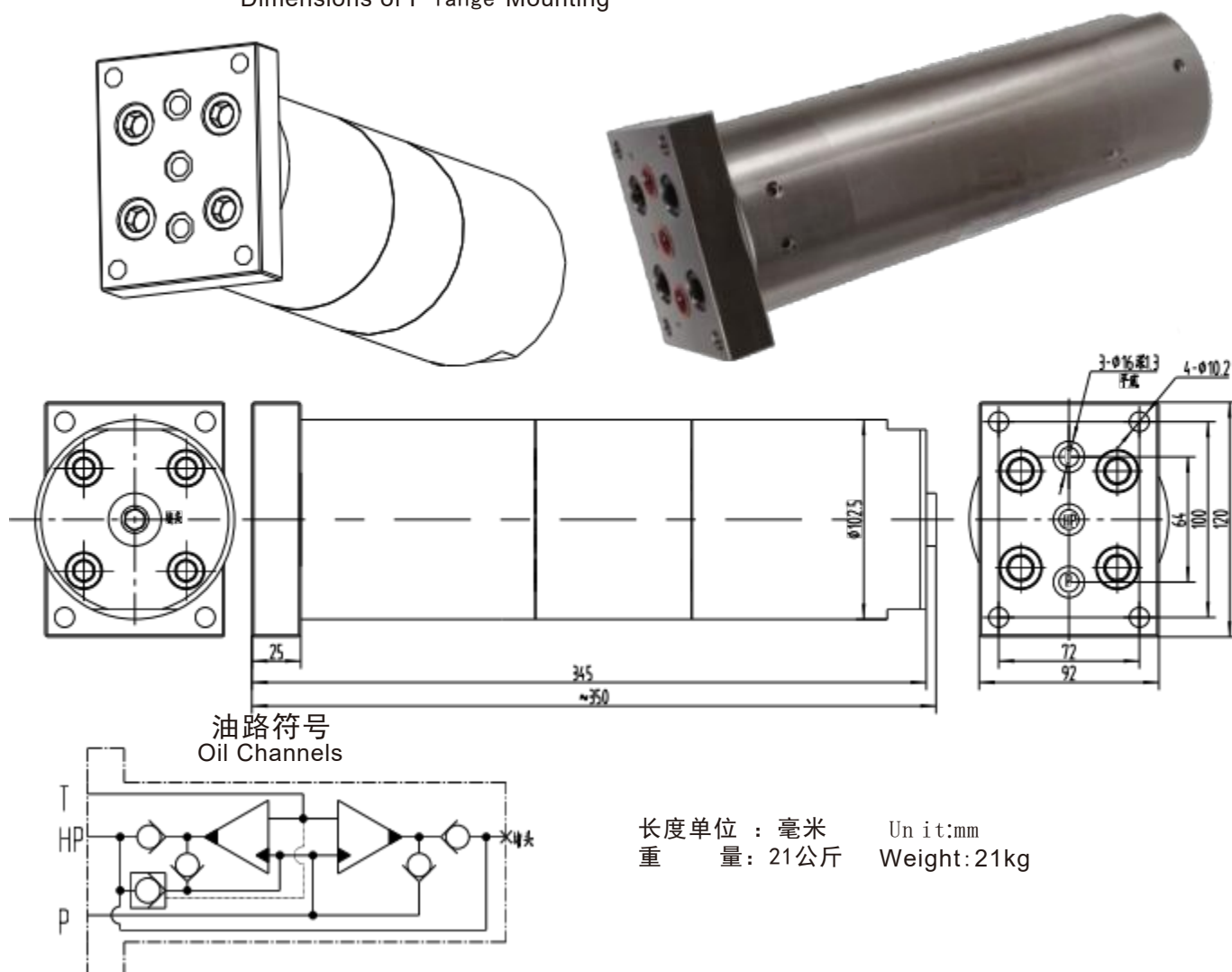
LS系列法兰式 LS Series Flange Mounting

参数表同管式

PARAMETER TABLE SAME AS THREADED MOUNTING

法兰式安装尺寸

Dimensions of Flange Mounting



长度单位：毫米
重量：21公斤

Unit:mm
Weight:21kg

可以根据需要定制更大比例，如16倍，20倍。

也可做高硬度材料或者不锈钢材质外壳，更改为更高压力等级增压器，最大可达400MPa。

CUSTOMIZATION

can customize 16 factors and 20 factors or others

customize cemented carbide or stainless steel

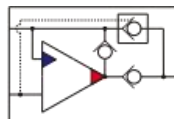
Pressure up to 400MPa

LS系列增压器波动小，输出流量非常大，适合快速大型工程机械，矿山设备，测试设备等的。

选型示例：BST-LSY-2.0F LS系列增压器，带卸荷功能，2.0增压比例，法兰式连接

LS series booster with larger output flow and small fluctuation, is very suitable for engineering fixture, mining machinery, testing and other applications.

Example : BST-LSY-2.0F LS series booster with unloading function, intensification factors is 2.0 and F flange connection.



LXL零泄露增压器 Zero Leakage Booter

参数表

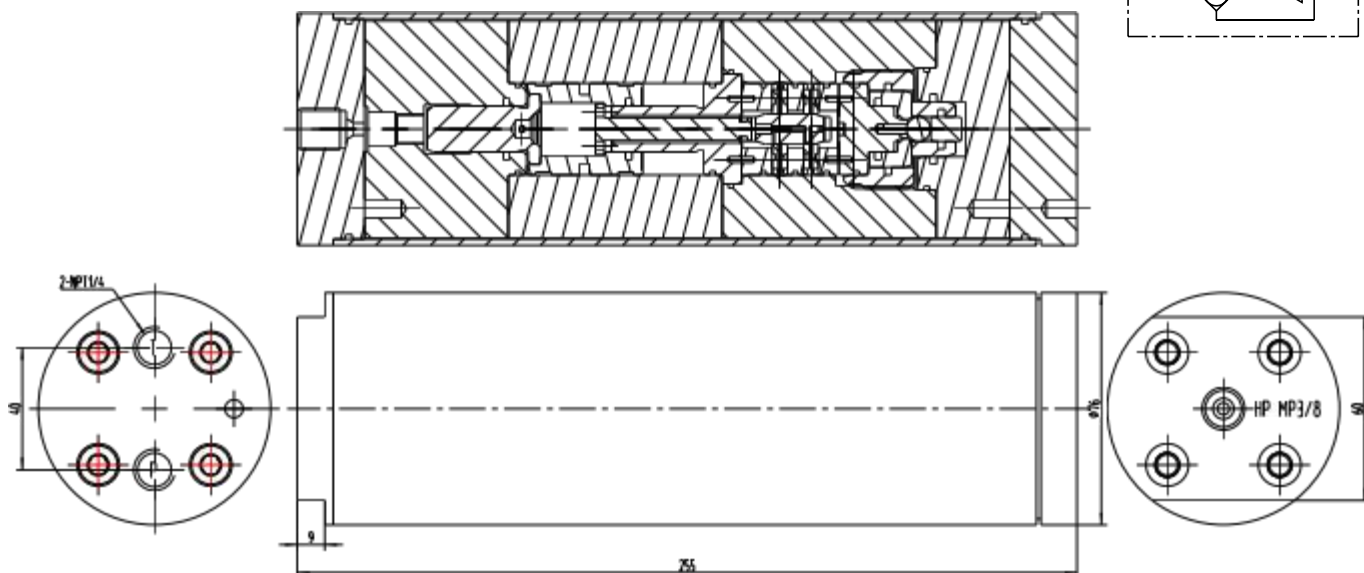
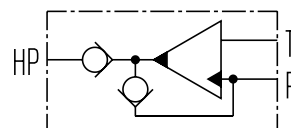
PARAMETER TABLE

增压比 RATIO	额定输入流量 INPUT LPM	临界输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR
3	20	4.4	300	900
5	20	2.7	300	1500
7	20	2	300	2100
10	20	1.3	200	2000

安装尺寸

Dimensions

油路符号
Oil Channels

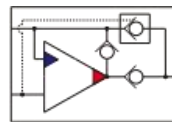


长度单位：毫米 Unit:mm
重 量：9公斤 Weight: 9kg

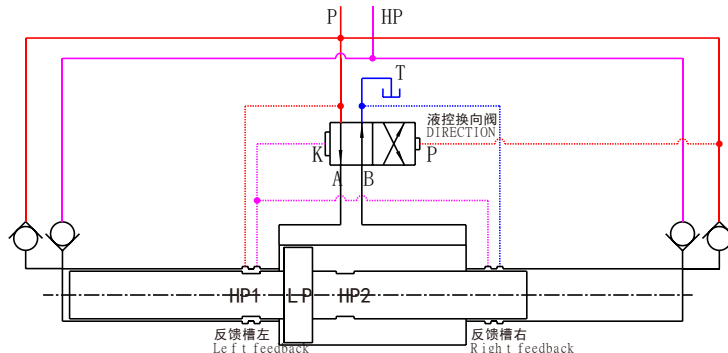
德思宏自主研发的零泄漏往复液压增压器，各个运动副采用密封件或者贴合密封，不同于滑阀结构存在间隙泄漏。

通过加装一个低压蓄能器，可以实现超高压长时间保压，特别适合应用于长时间保压小流量系统。

选型示例：LXL-3.0，即零泄漏增压器，3倍增压比，不带泄荷功能



超大流量系列 X Large Series



X超大流量系列为双向往复增压,其工作原理如上图所示

- 1、图示这个状态下,液控换向阀左侧小面积反馈腔与P口接通,右边大面积反馈腔经过反馈槽左与P口相通,由于液控换向阀右边反馈面积大于左边反馈面积,这时候,液控换向阀将往右边移动。
- 2、液控换向阀往右移动换向后,P口液压油经过液控换向阀,达到增压大活塞LP左腔,推动增压大活塞LP往右边移动,增压大活塞LP右腔液压油则经过液控换向阀后回到T口。增压大活塞LP往右边移动的同时,推动增压小活塞HP2压缩右边高压腔液体,提高压力,再从HP口输出。
- 3、当增压大活塞LP移动到右边后,反馈槽右将连通,液控换向阀右边大面积反馈腔经过反馈槽右与T口接通,这时候将推动液控换向阀往左边移动。
- 4、液控换向阀往左边移动到位后,增压大活塞又开始往左边运动,原理和之前一样,使左边输出高压。

如此往复左右运动,实现连续增压。

- X large flow series is dual-acting booster, and its working principle is shown in the above figure
1. In the figure, the small area feedback chamber on the left of the hydraulic control directional valve is connected with port P, and the large area feedback chamber on the left is connected with port P through the left feedback tank. Since the feedback area on the right side of the hydraulic control directional valve is greater than that on the left. At this time, the hydraulic control directional valve will move to the right.
 2. When the hydraulic control directional valve moves to the right, the hydraulic oil at port P passes through the hydraulic control directional valve to reach the left chamber of the large piston LP, and pushes the large piston LP to move to the right. The hydraulic oil in the right chamber of the large piston LP returns to port T after passing through the hydraulic control directional valve. While the large piston LP moves to the right, push the small piston HP2 to compress the liquid in the high-pressure chamber on the right, increase the pressure, and then output it from the HP port.
 3. When the large piston LP moves to the right, the right side of the feedback tank will be connected, and the large-area feedback chamber on the right side of the hydraulic control directional valve will be connected with port T through the feedback tank, then the hydraulic control directional valve will go to the left.
 4. After the hydraulic control directional valve moves to the left in place, the large piston LP starts to move to the left again. The principle is the same as before, making the left output high pressure. Such reciprocating left and right movement realizes continuous pressurization.

超大流量液压增压器X系列,具有以下特点。

The X series booster with extra large flow has the following characteristics:

- 1、内部集成液控换向阀,连续增压,液控换向阀,动作无死点。

Internal integrated directional valve, continuous pressurization, **Patented technology**, no stuck design.

- 2、双向增压,增压速度快。

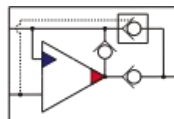
Dual-acting, fast charging.

- 3、压力自动补偿,当低压压力P与高压压力HP达到压力平衡时候,增压器停止动作,当高压压力泄漏导致压力下降时,增压器又开始动作,继续补偿泄漏压力,实现永不掉压。Pressure auto-compensation, when the low pressure P and high pressure HP reach the pressure balance, the booster stops working, when the high pressure pressure leak causes the pressure to drop, the booster starts to operate again, continue to compensate the leakage pressure, to achieve never drop the pressure.

- 4、集成度高,体积小,重量轻。High integration, small size and light weight.

- 5、输出压力高,输出流量大。High output pressure and large output flow.

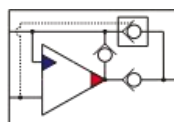
- 6、活塞与孔采用间隙密封,寿命长。The piston and the hole are sealed by gaps, the service life is long



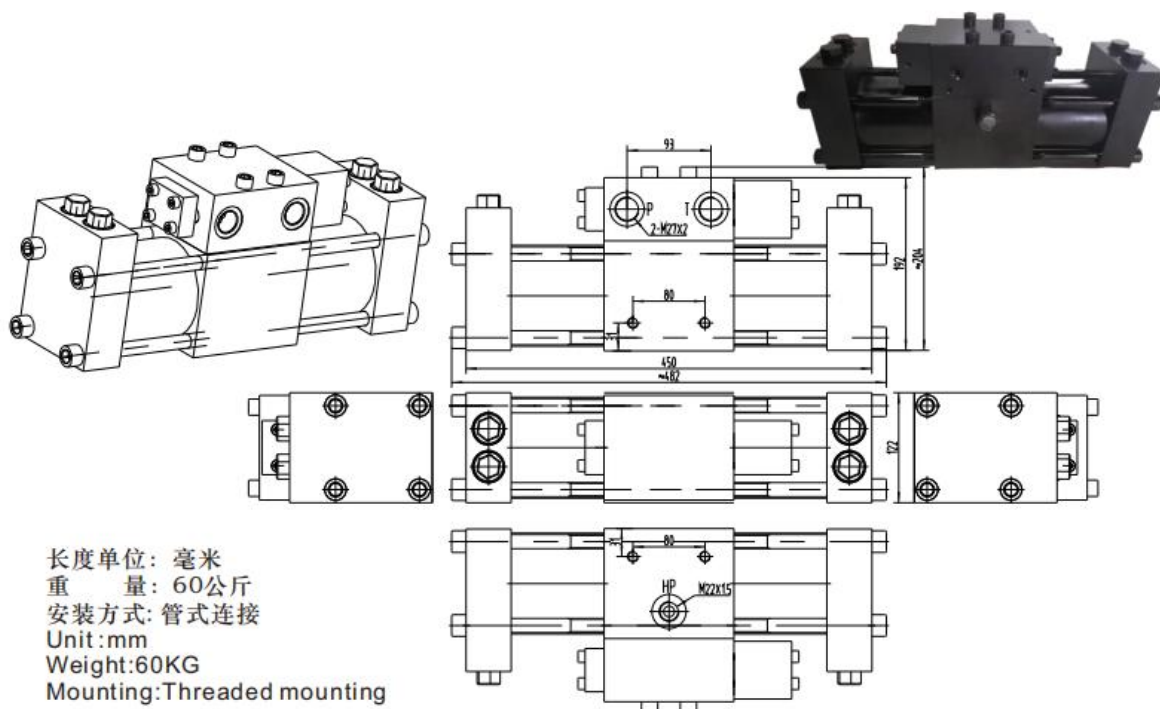
超大流量系列 X Large Series

增压比 RATIO	额定输入流量 INPUT LPM	额定输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
1.8	150	80	250	450	355
2.5	150	55	250	625	355
3.7	150	37	250	925	355
5.7	150	23	250	1425	355
6.8	150	18.5	250	1700	355
8	150	15	250	2000	355
11	100	7	250	2750	235

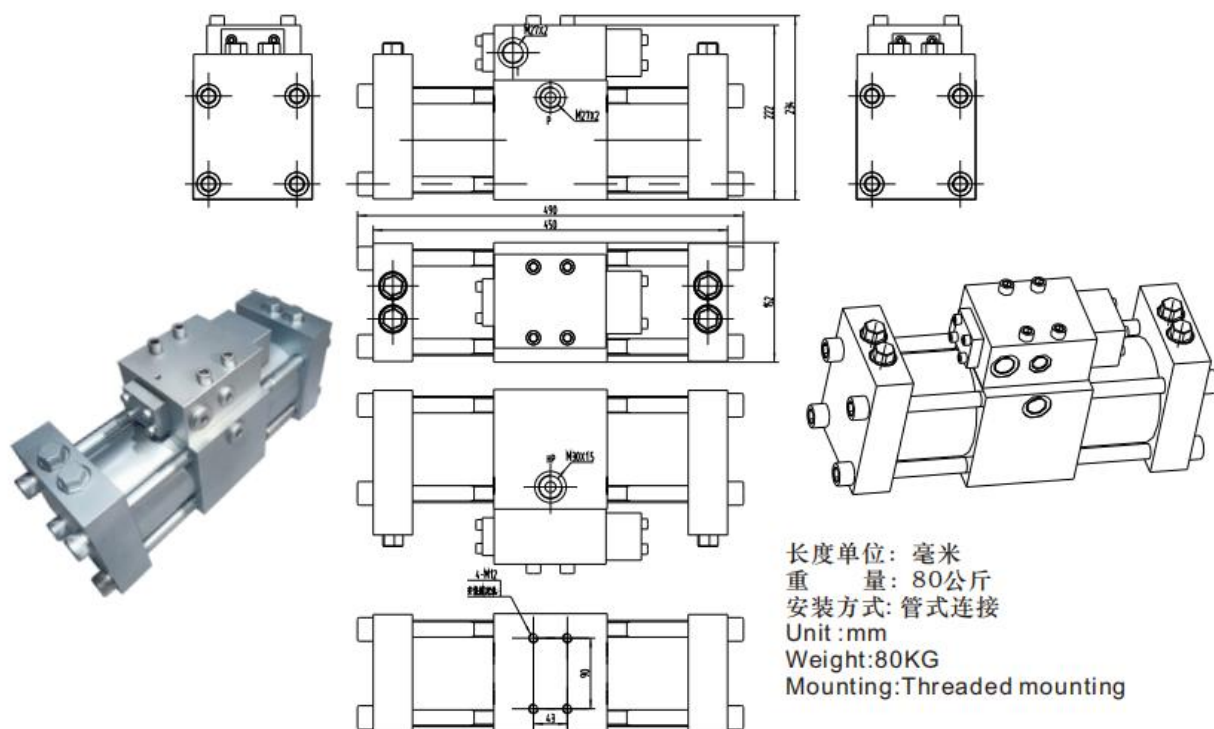
增压比 RATIO	额定输入流量 INPUT LPM	额定输出流量 OUTPUT LPM	额定输入压力 INPUT BAR	额定输出压力 OUTPUT BAR	额定频率 FREQUENCY
3.2	200	59	250	800	267
4.6	200	40	250	1150	267
6.7	200	26	250	1675	267
10	200	16	250	2500	267
14.5	150	7.6	172	2500	200
20	100	3.2	125	2500	134

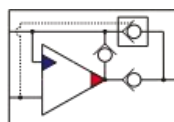


X60 安装尺寸 X60 Dimensions

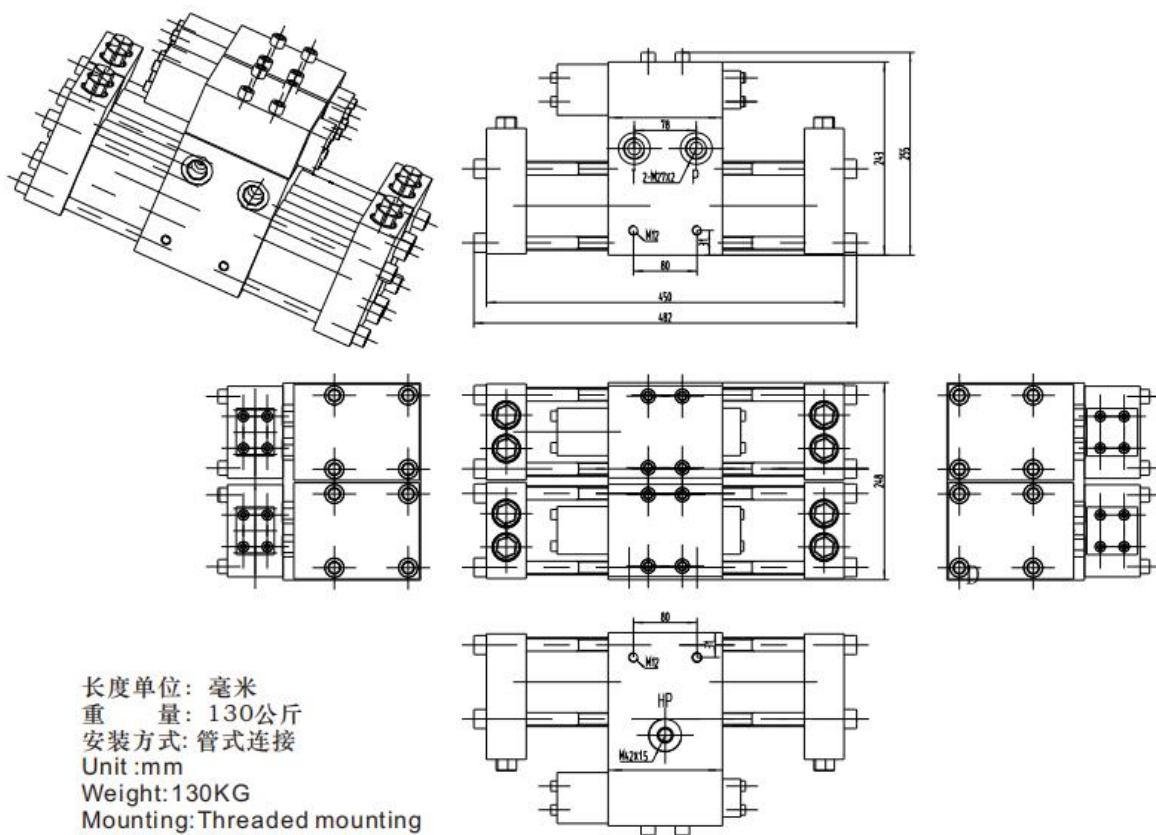


X80 安装尺寸 X80 Dimensions





DX60 安装尺寸 DX60 Dimensions



DX80 安装尺寸 DX80 Dimensions

