

|                                  |   |
|----------------------------------|---|
| <b>CAPACIDAD (ton)</b>           | <b>Desde 1 hasta 40 toneladas</b>           |
| <b>FLUIDO</b>                    | <b>Aire Comprimido</b>                      |
| <b>ACCIONAMIENTO</b>             | <b>Doble Accion</b>                         |
| <b>AMORTIGUACION</b>             | <b>Interna</b>                              |
| <b>Maxima presion de trabajo</b> | <b>10 bar</b>                               |
| <b>CONEXION</b>                  | <b>3/8"</b>                                 |
| <b>Minima presion de trabajo</b> | <b>1 bar</b>                                |
| <b>Temperatura</b>               | <b>5 - 60 °C</b>                            |
| <b>Velocidad de Operacion</b>    | <b>50-700 mm/s</b>                          |
| <b>LUBRICACION</b>               | <b>Se recomienda ISO VG32</b>               |
| <b>CARRERA</b>                   | <b>200 mm</b>                               |
| <b>MATERIAL</b>                  | <b>Acero forjado y Aleacion de Aluminio</b> |



HPN 5T - 80 - 100 - 20

| 型号 Type                    |                                       |
|----------------------------|---------------------------------------|
| HPN                        | 标准型气液增压缸 Standard boosting cylinder   |
| HPNS                       | 快速型气液增压缸 High-speed boosting cylinder |
| 理论增压出力 Theory boost output |                                       |

缸径 Bore

总行程 Total stroke

| 增压行程 Boost stroke |       |
|-------------------|-------|
| 5                 | 5 mm  |
| 10                | 10 mm |
| 15                | 15 mm |
| 20                | 20 mm |

| 主要技术参数 General technical data      |  |         |
|------------------------------------|--|---------|
| 缸径 Bore (mm) $\phi$                | HPN  | HPNS    |
| 作动压力 Operation pressure            | 4-7 KG/CM <sup>2</sup> 过滤后之干燥压缩空气                          |         |
| 动作形式 Action form                   | 双动 Double acting   |         |
| 循环油 Fuel oil                       | ISOVG68  | ISOVG32 |
| 温度范围 Temperature range             | 5-80° C (其余工作温度须定制 Other temperature should be customized) |         |
| 操作速度 Piston speed                  | 50-700mm/s   |         |
| 油缸保证耐压 Oil proof pressure          | 210 bar  |         |
| 气缸保证耐压 Air cylinder proof pressure | 15 bar   |         |
| 行程公差 Stroke tolerance              | +1.0MM   |         |
|                                    | 0  |         |
| 工作频率 Working frequency             | 10次以上/MIN 10 times/min                                     |         |

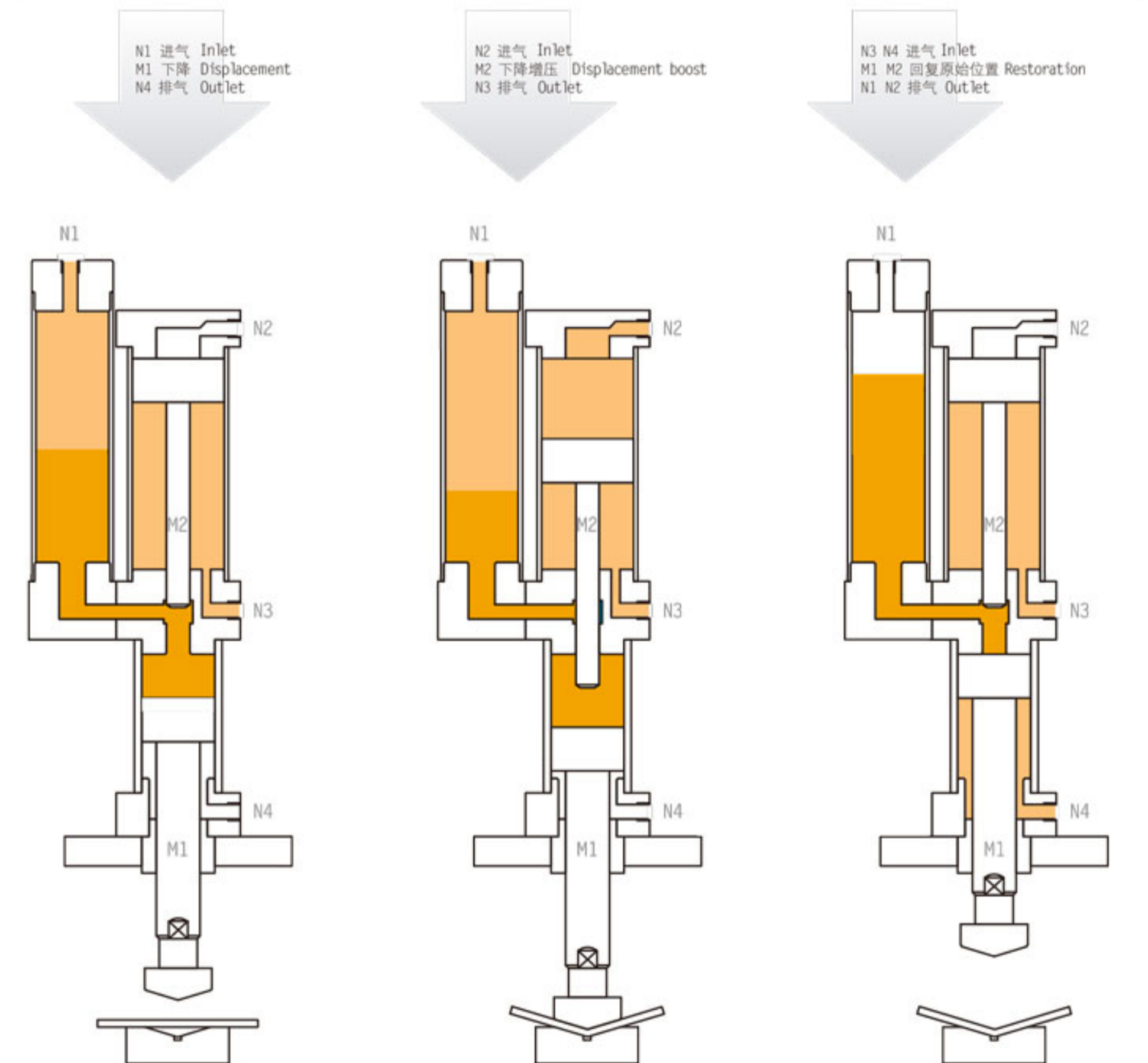
标准气液增压缸 Standard boosting cylinder / HPN

工作原理 Working principle

HPN 系列气液增压缸, 使用纯气压为动力, 利用前后大小活塞截面积之比例, 将低压空气转换成高压油, 输出增压比可达25:1左右, 主要用于冲压, 铆接, 弯曲等冲压作业处。

HPN series of gas-liquid boosting cylinders are mainly used for stamping, rivets, bending, and stamping operations, which using pure pressure air as a driven force, using front and rear pistons sectional area ratio, to make the low pressure air into the high oil pressure. The output ratio will be up to 25:1 so.

使用说明  
Step 1. 预压 Pre-pressurize      Step 2. 增压 Boost      Step 3. 回复 Restoration

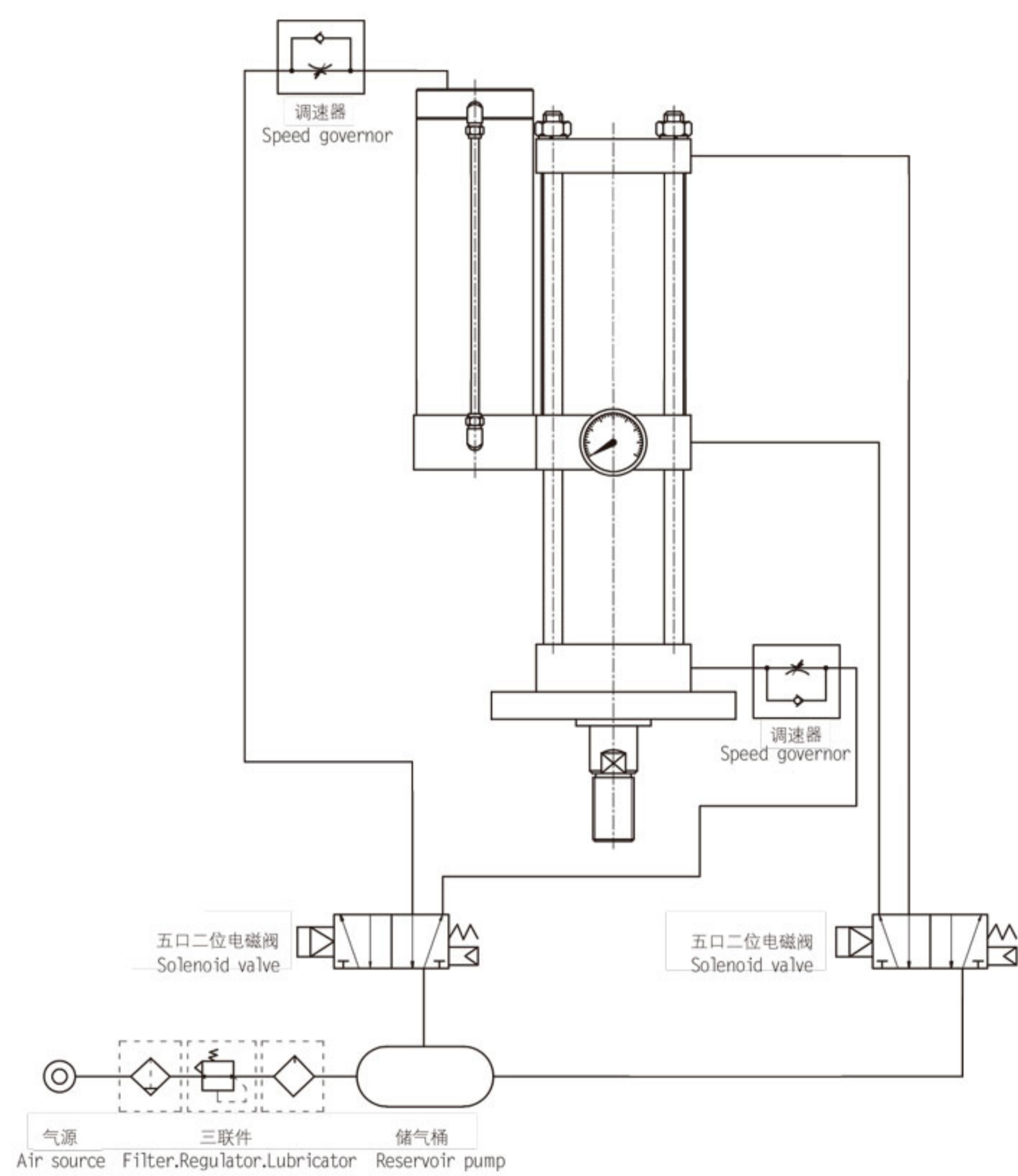


压缩空气 Compressed      液压油 Hydraulic oil

Hydraulic component 119-120 Standard boosting cylinder

标准气液增压缸 Standard boosting cylinder / HPN

工作原理 Working principle

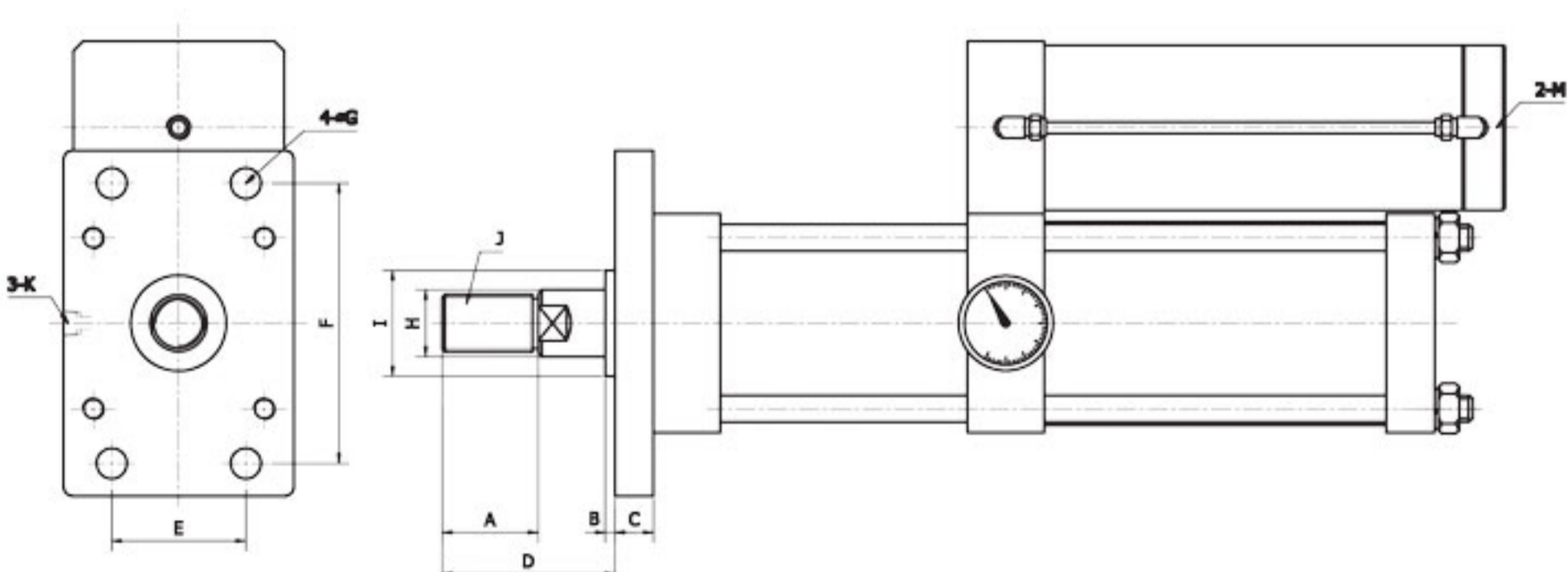


Hydraulic component 117-118 Standard boosting cylinder

标准型气液增压缸 Standard Boosting cylinder / HPN

技术参数 Technical data

| HPN 尺寸图 Dimensions |    |   |    |    |            |           |     |     |    |         |       |       |
|--------------------|----|---|----|----|------------|-----------|-----|-----|----|---------|-------|-------|
| 吨位 Tons            | A  | B | C  | D  | I          | H         | E   | F   | G  | J       | K     | M     |
| 1T                 | 50 | 5 | 20 | 75 | $\phi 50$  | $\phi 30$ | 50  | 120 | 12 | M26*1.5 | PT1/4 | PT1/4 |
| 3T                 | 50 | 5 | 20 | 75 | $\phi 55$  | $\phi 35$ | 65  | 150 | 14 | M30*1.5 | PT3/8 | PT3/8 |
| 5T                 | 50 | 5 | 25 | 90 | $\phi 55$  | $\phi 35$ | 70  | 170 | 16 | M30*1.5 | PT3/8 | PT3/8 |
| 10T                | 55 | 5 | 30 | 90 | $\phi 65$  | $\phi 45$ | 80  | 200 | 20 | M40*2.0 | PT1/2 | PT3/8 |
| 13T                | 55 | 5 | 30 | 90 | $\phi 65$  | $\phi 45$ | 80  | 200 | 20 | M40*2.0 | PT1/2 | PT3/8 |
| 15T                | 55 | 5 | 30 | 90 | $\phi 80$  | $\phi 60$ | 120 | 250 | 25 | M50*2.0 | PT1/2 | PT3/8 |
| 20T                | 55 | 5 | 30 | 90 | $\phi 80$  | $\phi 60$ | 120 | 250 | 25 | M50*2.0 | PT1/2 | PT3/8 |
| 30T                | 55 | 5 | 35 | 90 | $\phi 100$ | $\phi 80$ | 140 | 290 | 30 | M63*2.0 | PT3/4 | PT1/2 |
| 40T                | 55 | 5 | 40 | 90 | $\phi 100$ | $\phi 80$ | 160 | 320 | 35 | M63*2.0 | PT3/4 | PT1/2 |

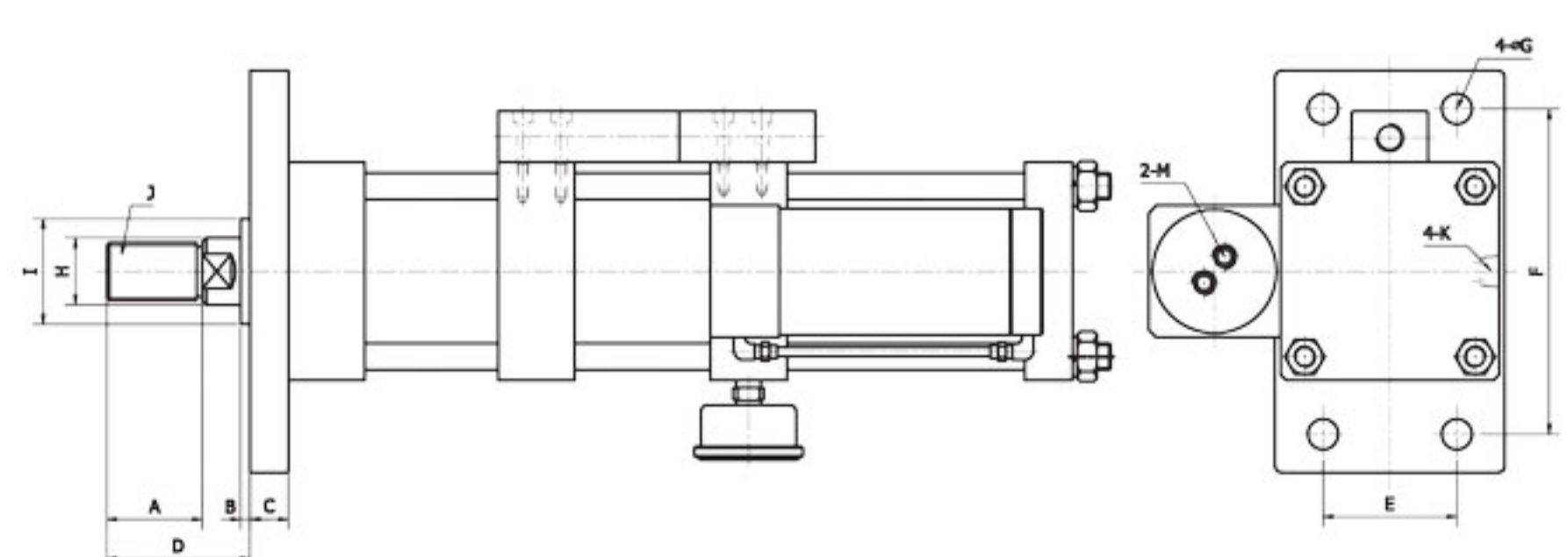


| 理论出力 Theory output |         |                       |                      |                       |                      |                       |                      |                       |                      |
|--------------------|---------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| 缸径 Bore            | 吨位 Tons | 4KG/CM <sup>2</sup>   |                      | 5KG/CM <sup>2</sup>   |                      | 6KG/CM <sup>2</sup>   |                      | 7KG/CM <sup>2</sup>   |                      |
|                    |         | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust |
| $\phi 50$          | 1T      | 1200                  | 50                   | 1500                  | 62                   | 1800                  | 74                   | 2100                  | 86                   |
| $\phi 63$          | 3T      | 2000                  | 80                   | 2500                  | 100                  | 3000                  | 120                  | 3500                  | 140                  |
| $\phi 80$          | 5T      | 4000                  | 160                  | 5000                  | 200                  | 6000                  | 240                  | 7000                  | 280                  |
| $\phi 100$         | 10T     | 6240                  | 240                  | 7800                  | 300                  | 9360                  | 360                  | 10920                 | 420                  |
| $\phi 100$         | 13T     | 7840                  | 240                  | 9800                  | 300                  | 11760                 | 360                  | 13720                 | 420                  |
| $\phi 125$         | 15T     | 10240                 | 376                  | 12800                 | 470                  | 15360                 | 564                  | 17920                 | 658                  |
| $\phi 125$         | 20T     | 13920                 | 376                  | 17400                 | 470                  | 20880                 | 564                  | 24360                 | 658                  |
| $\phi 160$         | 30T     | 21200                 | 600                  | 26500                 | 750                  | 31800                 | 900                  | 37100                 | 1050                 |
| $\phi 180$         | 40T     | 28180                 | 816                  | 35225                 | 1020                 | 42270                 | 1224                 | 49315                 | 1428                 |

快速型气液增压缸 High-speed boosting cylinder / HPNS

技术参数 Technical data

| HPNS 尺寸图 Dimensions |    |   |    |    |            |           |     |     |    |         |       |       |
|---------------------|----|---|----|----|------------|-----------|-----|-----|----|---------|-------|-------|
| 吨位 Tons             | A  | B | C  | D  | I          | H         | E   | F   | G  | J       | K     | M     |
| 1T                  | 50 | 5 | 20 | 75 | $\phi 50$  | $\phi 30$ | 50  | 120 | 12 | M26*1.5 | PT1/4 | PT3/8 |
| 3T                  | 50 | 5 | 20 | 75 | $\phi 55$  | $\phi 35$ | 65  | 150 | 14 | M30*1.5 | PT3/8 | PT3/8 |
| 5T                  | 50 | 5 | 25 | 90 | $\phi 55$  | $\phi 35$ | 70  | 170 | 16 | M30*1.5 | PT3/8 | PT3/8 |
| 10T                 | 55 | 5 | 30 | 90 | $\phi 65$  | $\phi 45$ | 80  | 200 | 20 | M40*2.0 | PT1/2 | PT3/8 |
| 13T                 | 55 | 5 | 30 | 90 | $\phi 65$  | $\phi 45$ | 80  | 200 | 20 | M40*2.0 | PT1/2 | PT3/8 |
| 15T                 | 55 | 5 | 30 | 90 | $\phi 80$  | $\phi 60$ | 120 | 250 | 25 | M50*2.0 | PT1/2 | PT3/8 |
| 20T                 | 55 | 5 | 30 | 90 | $\phi 80$  | $\phi 60$ | 120 | 250 | 25 | M50*2.0 | PT1/2 | PT3/8 |
| 30T                 | 55 | 5 | 35 | 90 | $\phi 100$ | $\phi 80$ | 140 | 290 | 30 | M63*2.0 | PT3/4 | PT3/8 |
| 40T                 | 55 | 5 | 40 | 90 | $\phi 100$ | $\phi 80$ | 160 | 320 | 35 | M63*2.0 | PT3/4 | PT3/8 |



| 理论出力 Theory output |         |                       |                      |                       |                      |                       |                      |                       |                      |
|--------------------|---------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|-----------------------|----------------------|
| 缸径 Bore            | 吨位 Tons | 4KG/CM <sup>2</sup>   |                      | 5KG/CM <sup>2</sup>   |                      | 6KG/CM <sup>2</sup>   |                      | 7KG/CM <sup>2</sup>   |                      |
|                    |         | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust | 增压出力KG Booster output | 回程拉力KG Return thrust |
| $\phi 50$          | 1T      | 1200                  | 96                   | 1500                  | 120                  | 1800                  | 144                  | 2100                  | 168                  |
| $\phi 63$          | 3T      | 2000                  | 160                  | 2500                  | 200                  | 3000                  | 240                  | 3500                  | 280                  |
| $\phi 80$          | 5T      | 4000                  | 160                  | 5000                  | 200                  | 6000                  | 240                  | 7000                  | 280                  |
| $\phi 100$         | 10T     | 6240                  | 240                  | 7800                  | 300                  | 9360                  | 360                  | 10920                 | 420                  |
| $\phi 100$         | 13T     | 7840                  | 240                  | 9800                  | 300                  | 11760                 | 360                  | 13720                 | 420                  |
| $\phi 125$         | 15T     | 10240                 | 376                  | 12800                 | 470                  | 15360                 | 564                  | 17920                 | 658                  |
| $\phi 125$         | 20T     | 13920                 | 376                  | 17400                 | 470                  | 20880                 | 564                  | 24360                 | 658                  |
| $\phi 160$         | 30T     | 21200                 | 600                  | 26500                 | 750                  | 31800                 | 900                  | 37100                 | 1050                 |
| $\phi 180$         | 40T     | 28180                 | 816                  | 35225                 | 1020                 | 42270                 | 1224                 | 49315                 | 1428                 |