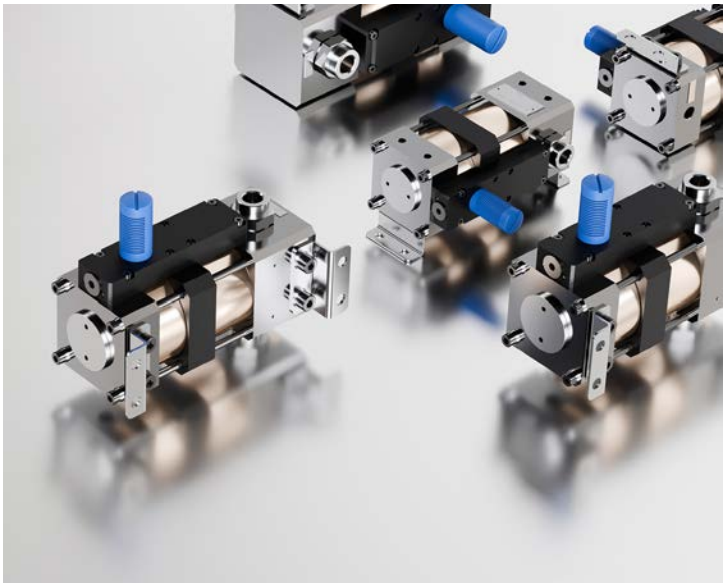


The SP series oleo-pneumatic pumps are designed to actuate or pressurize all hydraulic applications that do not require high uniformity of movement.
The very design of the pump means that it delivers a pulsating hydraulic flow, thus inducing irregular movement in the connected applications.

Les pompes oléo-pneumatiques série SP sont conçues pour actionner ou mettre sous pression toutes les utilisations hydrauliques qui ne nécessitent pas une grande uniformité de mouvement.
La conception même de la pompe fait qu'elle délivre un flux hydraulique pulsant, induisant ainsi un mouvement irrégulier dans les utilisations qui y sont connectées.

Le pompe oleopneumatiche serie SP sono concepite allo scopo di azionare o mettere in pressione tutti quegli utilizzi idraulici che non necessitino di una elevata uniformità di movimento.
La concezione stessa della pompa fa sì che quest'ultima eroghi un flusso idraulico pulsante inducendo quindi un movimento irregolare negli utilizzi ad essa collegati.

TECHNICAL DATA / **DONNÉES TECHNIQUES** / *DATI TECNICI*

Maximum oil viscosity / **Viscosité maximale de l'huile** / *Massima viscosità dell'olio*	10° engler
Maximum oil temperature / **Température maximale de l'huile** / *Temperatura massima dell'olio*	80°c
Ambient temperature / **Température ambiante** / *Temperatura ambiente*	-10 +50°c
Minimum ensured capacity / **Capacité minimale garantie** / *Capacità minima garantita*	0,06 l/1'
Min. pneumatic feed pressure / **Pression minimale d'alimentation pneumatique** / *Pressione minima di alimentazione pneumatica*	1.5 bar
Max. pneumatic feed pressure / **Pression maximale d'alimentation pneumatique** / *Pressione massima di alimentazione pneumatica*	10 bar
Oil filtration rating / **Finesse de filtration de l'huile** / *Grado di filtraggio olio*	60 micron

ORDERING CODE / **CODIFICATION** / *CHIAVE DI CODIFICA*

S	P	1	A	1

MOUNTING TYPE / **TYPE DE MONTAGE** / *TIPOLOGIA DI MONTAGGIO*
1= Wall mounting / **Montage mural** / *Montaggio a parete*
2= Immersion mounting / **Montage par immersion** / *Montaggio ad immersione*

COMPRESSION RATIO SIZE 1AND 2 / **TAUX DE COMPRESSION TAILLE 1 ET 2** / *RAPPORTO DI COMPRESSIONE TAGLIA 1 E 2*

	SIZE 1 / **TAILLE 1** / *TAGLIA 1*	SIZE 2 / **TAILLE 2** / *TAGLIA 2*
A	75:1	70:1
B	40:1	50:1
C	21:1	30:1
D	16:1	20:1
E	10:1	15:1
F	5:1	11:1

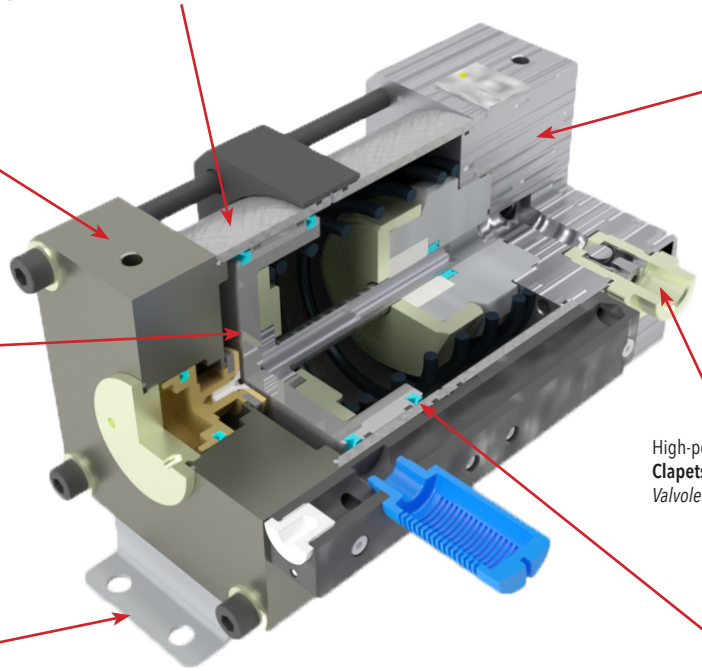
PUMP SIZE / **TAILLE DE LA POMPE** / *TAGLIA POMPA*
1= Pneumatic cylinder bore 70mm / **Vérin pneumatique alésage 70mm** / *Cilindro pneumatico alesaggio 70mm*
2= Pneumatic cylinder bore 100mm / **Vérin pneumatique alésage 100mm** / *Cilindro pneumatico alesaggio 100mm*

THE KEY POINTS / **LES POINTS CLES** / *PUNTI DI FORZA*

Hard oxidized aluminum pneumatic head.
Tête pneumatique en aluminium oxydé dur.
Testata pneumatica in alluminio ossidato duro.

Lapped and chrome-plated steel cylinder.
Cylindre en acier rodé et chromé.
Cilindro in acciaio lappato e cromato.

High-strength steel pump body with special anti-corrosion treatment.
Corps de pompe en acier haute résistance avec traitement spécial anti-corrosion.
Corpo pompa in acciaio ad alta resistenza con trattamento speciale anti corrosione.



Anodized aluminum pneumatic piston.
Piston pneumatique en aluminium anodisé.
Pistone pneumatico in alluminio anodizzato.

High-performance suction and delivery check valves.
Clapets anti-retour haute performance.
Valvole di ritegno in aspirazione e mandata ad alte prestazioni.

Galvanized steel brackets for wall or lid mounting.
Supports en acier galvanisé pour montage mural ou sur couvercle.
Staffe in acciaio zincato per il montaggio a parete o su coperchio.

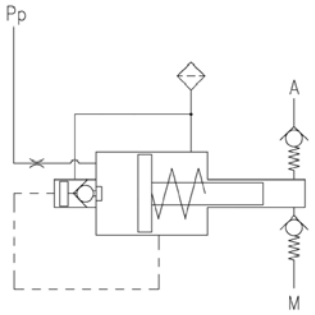
Polyurethane pneumatic seals with anti-friction pads.
Joints pneumatiques en polyuréthane avec patins anti-friction.
Tenute pneumatiche in poliuretano con pattini anti frizione.

OPERATING PRINCIPLE / **PRINCIPE DE FONCTIONNEMENT** / *PRINCIPIO DI FUNZIONAMENTO*

SP series oleo-pneumatic pumps utilize the principle of differential areas. The pressure energy supplied by compressed air is transformed into thrust by the pump's large-section pneumatic piston. The resulting force is then converted back into pressure energy by the hydraulic piston, which is integral to the pneumatic one. The value of the resulting hydraulic pressure can be calculated based on the supplied pneumatic pressure multiplied by the pump's area ratio (compression ratio).

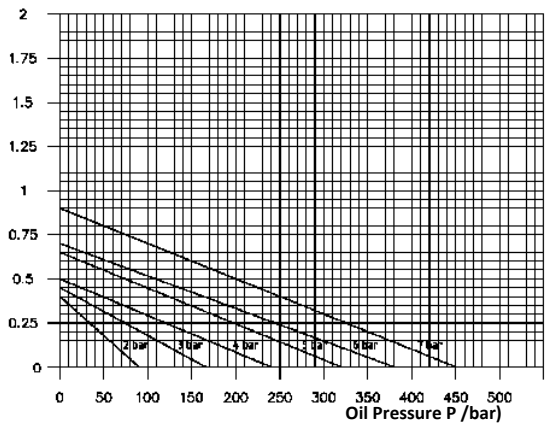
Les pompes oléo-pneumatiques série SP utilisent le principe des surfaces différentielles. L'énergie de pression fournie par l'air comprimé est transformée en poussée par le piston pneumatique de grande section de la pompe. La force résultante est ensuite reconvertie en énergie de pression par le piston hydraulique, solidaire du piston pneumatique. La valeur de la pression hydraulique résultante est calculable en fonction de la pression pneumatique fournie, multipliée par le rapport des surfaces de la pompe (rapport de compression).

Le pompe oleopneumatiche serie SP utilizzano il principio delle aree differenziali, l'energia di pressione fornita dall'aria compressa viene trasformata in spinta dal pistone pneumatico di grande sezione della pompa. La forza risultante viene convertita nuovamente in energia di pressione dal pistone idraulico solidale a quello pneumatico. Il valore della pressione idraulica risultante è calcolabile in base alla pressione pneumatica fornita moltiplicata per il rapporto delle aree della pompa (rapporto di compressione).

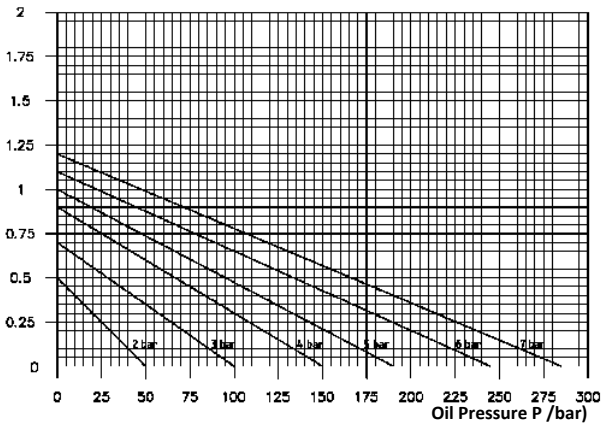


SIZE 1 PUMPS PRESSURE - FLOW DIAGRAM
DIAGRAMME PRESSION - DÉBIT POMPES TAILLE 1
DIAGRAMMA PRESSIONE - PORTATA POMPE TAGLIA 1

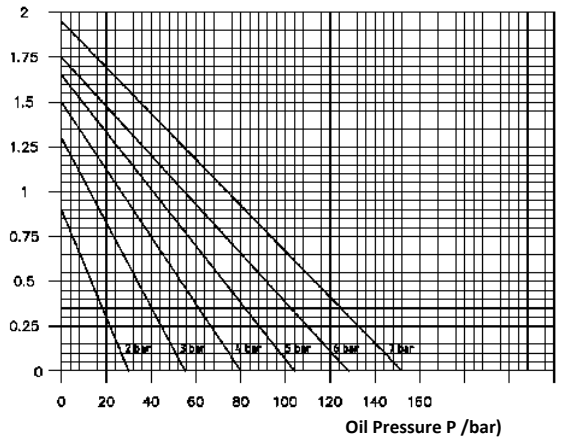
A Size Pump



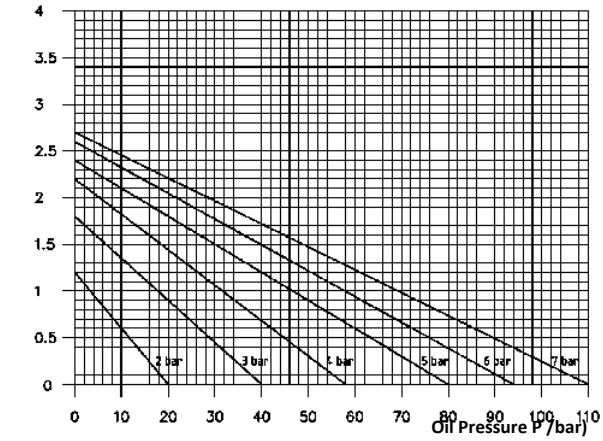
B Size Pump



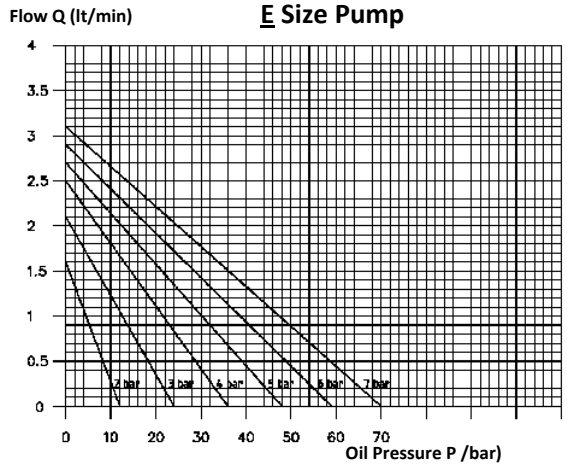
C Size Pump



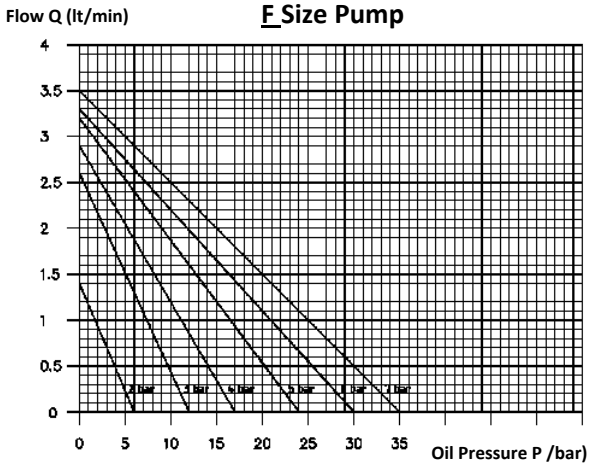
D Size Pump



E Size Pump

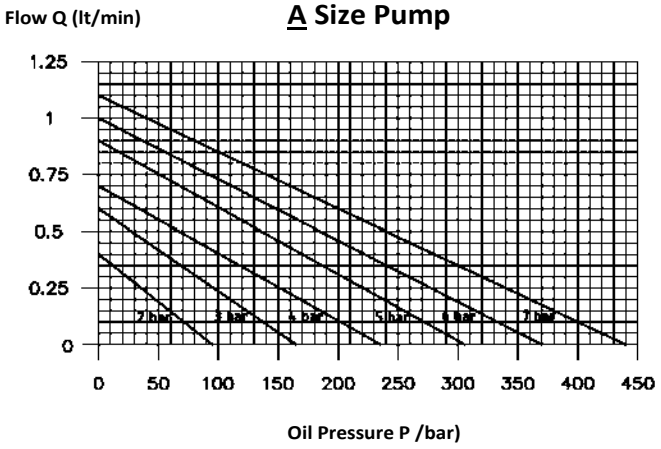


F Size Pump

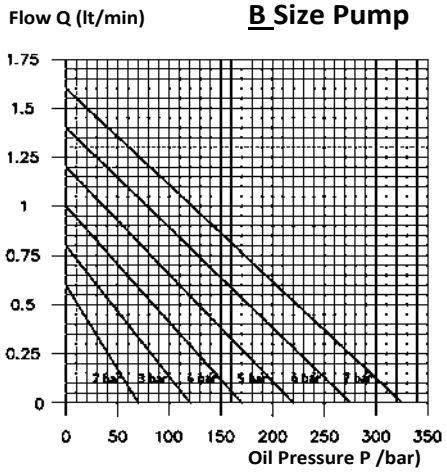


SIZE 2 PUMPS PRESSURE - FLOW DIAGRAM
DIAGRAMME PRESSION - DÉBIT POMPES TAILLE 2
DIAGRAMMA PRESSIONE - PORTATA POMPE TAGLIA 2

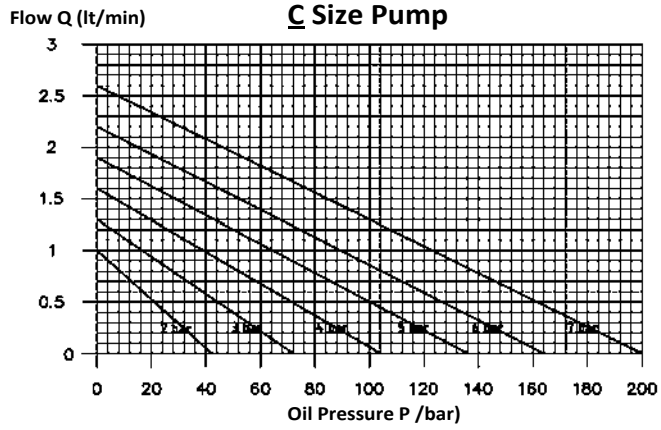
A Size Pump



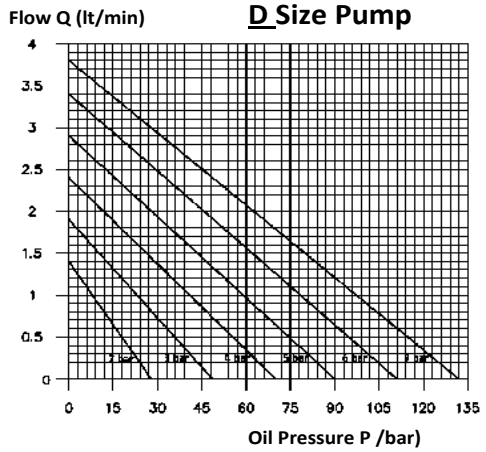
B Size Pump



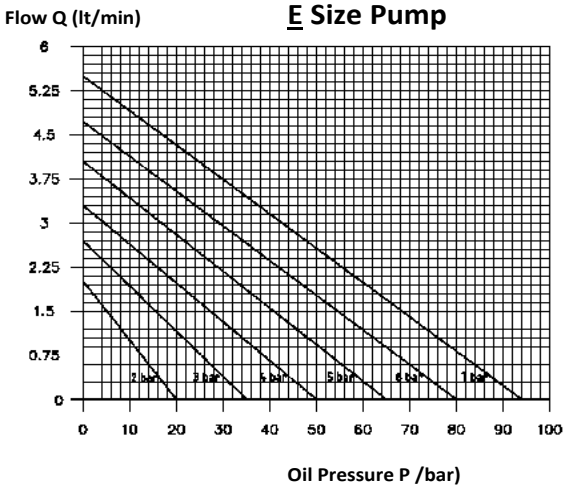
C Size Pump



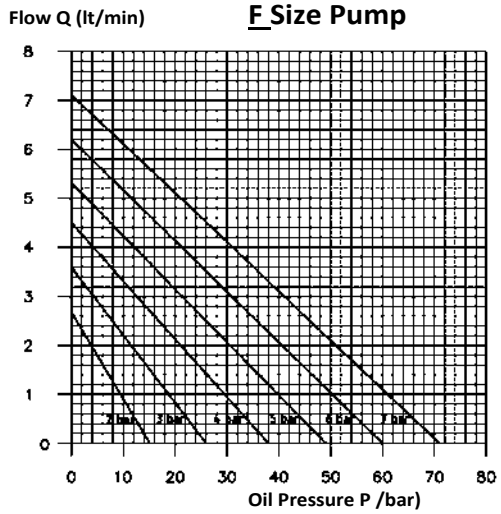
D Size Pump



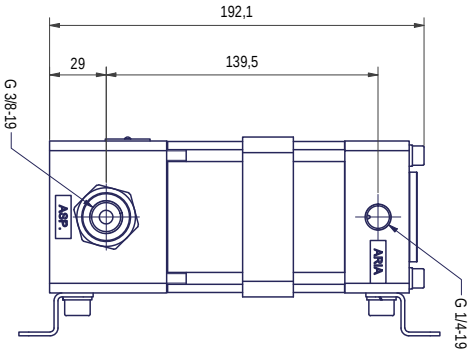
E Size Pump

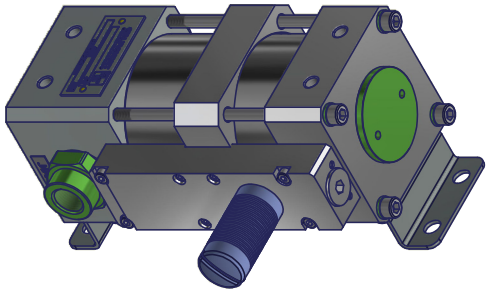


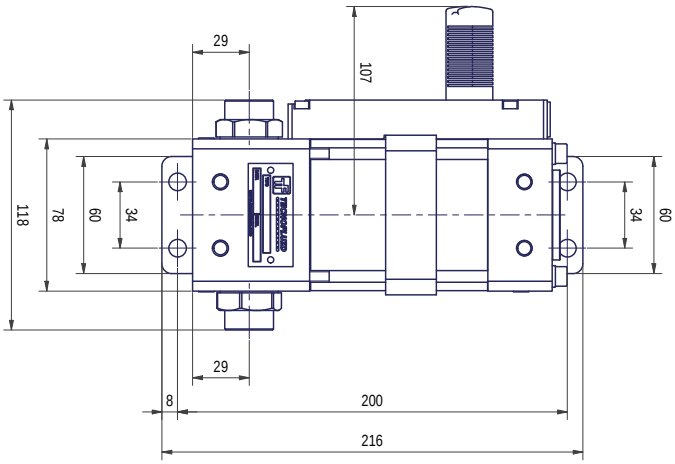
F Size Pump

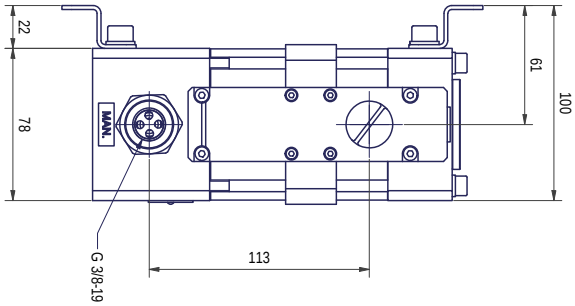


AIR-DRIVEN PUMPS, SIZE 1, WALL-MOUNTED
POMPES OLÉOPNEUMATIQUES, TAILLE 1, MONTAGE MURAL
POMPE OLEOPNEUMATICHE , TAGLIA 1 , MONTAGGIO A PARETE

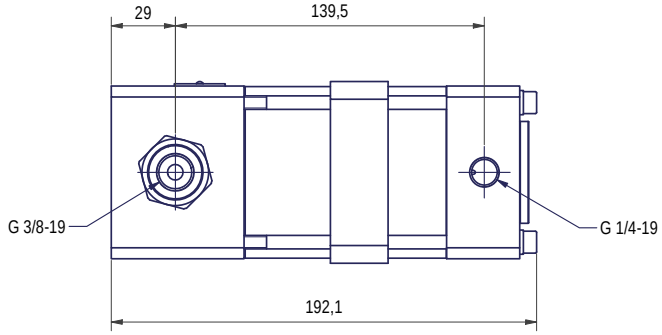


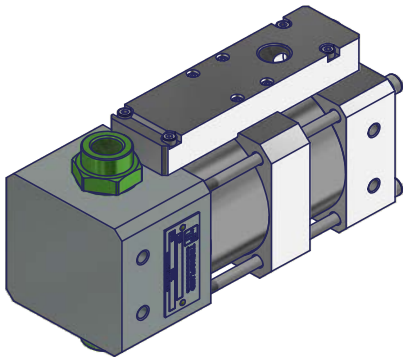


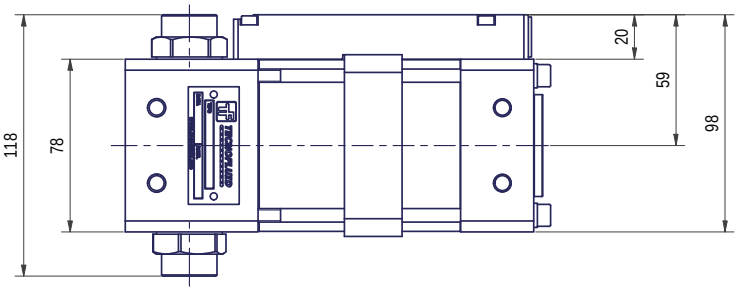


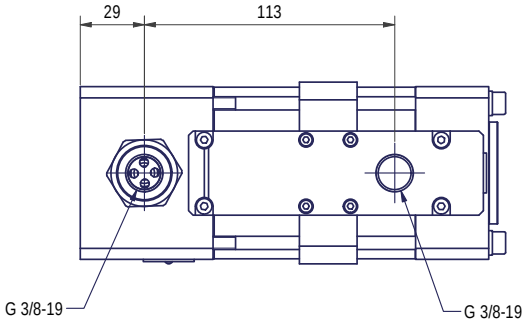


AIR-DRIVEN PUMPS, SIZE 1, IMMERSION MOUNTING
POMPES OLÉOPNEUMATIQUES, TAILLE 1, MONTAGE PAR IMMERSION
POMPE OLEOPNEUMATICHE , TAGLIA 1 , MONTAGGIO AD IMMERSIONE

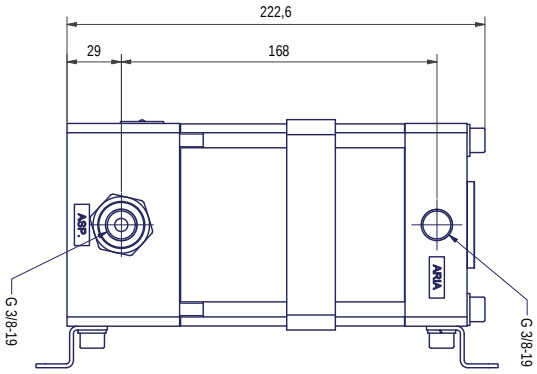


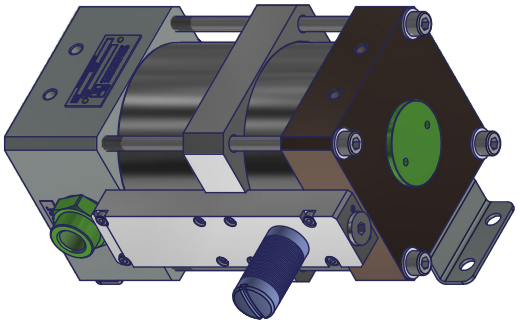


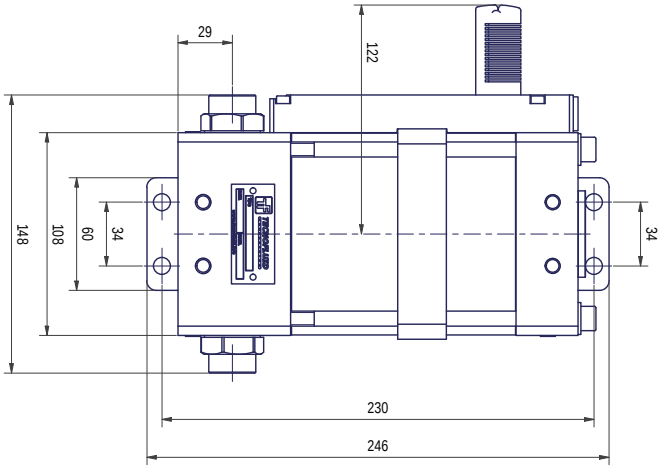


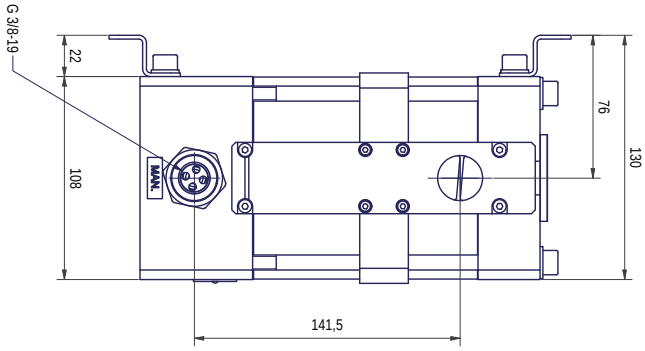


AIR-DRIVEN PUMPS, SIZE 2, WALL-MOUNTED
POMPES OLÉOPNEUMATIQUES, TAILLE 2, MONTAGE MURAL
POMPE OLEOPNEUMATICHE , TAGLIA 2 , MONTAGGIO A PARETE









AIR-DRIVEN PUMPS, SIZE 2, IMMERSION MOUNTING
POMPES OLÉOPNEUMATIQUES, TAILLE 2, MONTAGE PAR IMMERSION
POMPE OLEOPNEUMATICHE , TAGLIA 2 , MONTAGGIO AD IMMERSIONE