



Airwork hydraulic speed regulator, is an oil system with closed circuit which has to be connected to a pneumatic cylinder in order to obtain an adjustable slowing down of the stroke.  
 Several versions are available: regulation in push, in traction and double regulation.  
 It is available with a SKIP valve, a STOP valve, or both.

**Le régulateur hydraulique de vitesse d'Airwork est un système à huile à circuit fermé qui est couplé à un verin pneumatique afin d'obtenir un réglage fin de la vitesse du course.**  
**Il existe dans plusieurs versions: régulation en poussant, régulation en tirant et regulation double.**  
**Il peut être équipé d'une vanne SKIP (suppression de régulation), ou STOP (blocage de tige) ou les deux.**

*Il regolatore idraulico di velocità di Airwork è un sistema ad olio a circuito chiuso, da abbinare normalmente ad un cilindro pneumatico per ottenere un rallentamento regolabile della corsa.*  
*Sono disponibili diverse versioni: regolazione in spinta, in trazione e doppia regolazione.*  
*È prevista una valvola di SKIP, STOP o entrambe.*

**ORDERING CODE / CODIFICATION / CHIAVE DI CODIFICA**
**R 1 3 0 0 1 1 1 0 0 0**

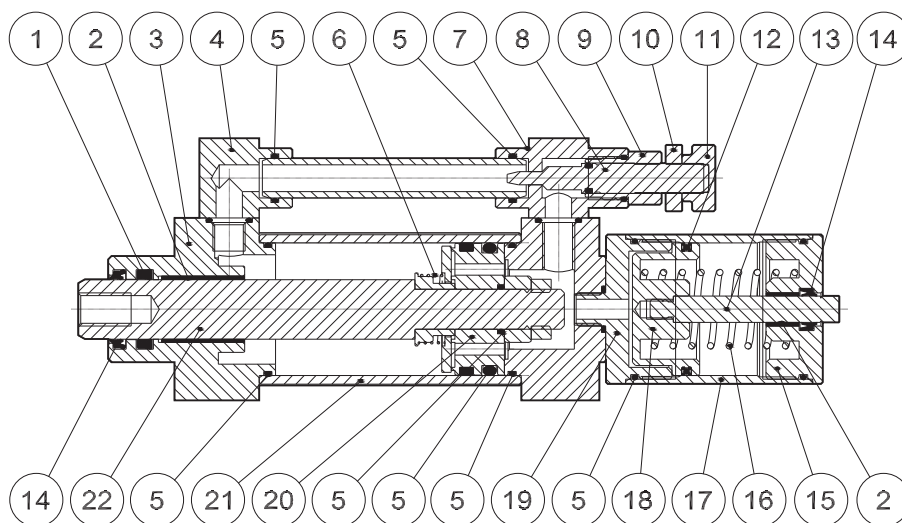
- Stroke / Course / Corsa
- 1= In line oil tank / Réservoir d'huile en ligne / Serbatoio in linea  
 2= Only regulator / Régulateur seul / Solo regolatore  
 4= With SKIP valve / Avec vanne SKIP / Con valvola SKIP  
 5= With STOP valve / Avec vanne STOP / Con valvola STOP  
 6= SKIP+STOP
- 1= Outlet regulation / Régulateur en sortie / Regolatore in uscita  
 2= Inlet regulation / Régulateur en entrée / Regolatore in rientro  
 3= Double acting regulation / Régulateur double effet / Regolatore doppio effetto

	Only regulator <b>Régulateur seul</b> <i>Solo regolazione</i>	With SKIP <b>Avec SKIP</b> <i>Con SKIP</i>	With STOP <b>Avec STOP</b> <i>Con STOP</i>	With SKIP and STOP <b>Avec SKIP e STOP</b> <i>Con SKIP e STOP</i>
Outlet regulation <b>Régulateur en sortie</b> <i>Regolatore in uscita</i>				
Inlet regulation <b>Régulateur en entrée</b> <i>Regolatore in rientro</i>				
Double acting regulation <b>Régulateur double effet</b> <i>Regolatore doppio effetto</i>				

**STANDARD STROKES / COURSE STANDARD / CORSE STANDARD**
**Ø40** mm 50 - 100 - 150 - 200 - 250 - 300 - 350 - 400 - 450 - 500

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

Max load / <b>Charge max.</b> / <i>Carico massimo</i>	600 Kg
Min./Max speed / <b>Vitesse min./max</b> / <i>Velocità min./max</i>	60 - 10.000 mm/min
Temperature range / <b>Température d'utilisation</b> / <i>Temperatura di esercizio</i>	-10°C / +70°C
Hydraulic oil Viscosity / <b>Viscosité de l'huile</b> / <i>Viscosità olio</i>	2,9E 50°C
Minimum pressure start valve skip and stop <b>Pression min. de démarrage de la valve de skip et stop</b> <i>Pressione min. per l'azionamento delle valvole di skip e stop</i>	4 bar



N.	DESCRIPTION / DESCRIPTION / DESCRIZIONE	MATERIAL / MATIÈRE / MATERIALE
1	Sales / <b>joint</b> / Guarnizioni	Polyurethane / <b>PU</b> / Poliuretano
2	Slide bearing / <b>Palier de guidage</b> / Bussola guida	Steel+PTFE / <b>Acier+PTFE</b> / Acciaio+PTFE
3	Front cap / <b>Nez avant</b> / Testata anteriore	Aluminium / <b>Aluminium</b> / Alluminio
4	Collector / <b>Collecteur</b> / Collettore	Aluminium / <b>Aluminium</b> / Alluminio
5	O-Ring / <b>Joint torique</b>	NBR
6	Spring / <b>Ressort</b> / Molla	Steel / <b>Acier</b> / Acciaio
7	Manifold / <b>Manifold</b> / Basetta	Aluminium / <b>Aluminium</b> / Alluminio
9	Body / <b>Corps</b> / Corpo	Steel / <b>Acier</b> / Acciaio
10	Stop metal ring / <b>Bague métal. d'arrêt</b> / Ghiera di arresto	Steel / <b>Acier</b> / Acciaio
11	Metal ring for regulation / <b>Bague métal.regulat</b> / Ghiera di regolazione	Steel / <b>Acier</b> / Acciaio
12	O-Ring / <b>Joint torique</b>	NBR
13	Rod / <b>Tige</b> / Stelo	Steel / <b>Acier</b> / Acciaio
14	Seal / <b>Joint</b> / Guarnizione	Polyurethane / <b>PU</b> / Poliuretano
15	Plug / <b>Bouchon</b> / Tappo	Aluminium / <b>Aluminium</b> / Alluminio
16	Spring / <b>Ressort</b> / Molla	Steel / <b>Acier</b> / Acciaio
17	Tube / <b>Tube</b> / Tubo	Steel / <b>Acier</b> / Acciaio
18	Piston / <b>Piston</b> / Pistone	Aluminium / <b>Aluminium</b> / Alluminio
19	Base / <b>Base</b> / Base	Aluminium / <b>Aluminium</b> / Alluminio
20	Piston / <b>Piston</b> / Pistone	Aluminium / <b>Aluminium</b> / Alluminio
21	Tube / <b>Tube</b> / Tubo	Steel / <b>Acier</b> / Acciaio
22	Rod / <b>Tige</b> / Stelo	Steel / <b>Acier</b> / Acciaio

#### WORKING PRINCIPLE / PRINCIPE DE FONCTIONNEMENT / PRINCIPIO DI FUNZIONAMENTO

The operating principle of hydraulic speed regulators is based on oil incompressibility: flowing from the frontal to the rear chamber (or vice-versa), through a flow regulator, it absorbs and neutralizes any speed variation in the linear actuator connected to it.

Hydraulic speed regulators can split, with appropriate precautions, the different processing stages, and make it possible to approach the pieces more quickly, to speed-up or slow-down the processing steps, to accelerate, for example, the approach to the next piece (using by-pass valves known as SKIP valves): furthermore, they can be equipped with STOP valves to clamp and hold all the moving pieces connected to them. The SKIP and STOP valves are 2-way pneumatic shutter valves. As a rule both of them are open, and therefore pneumatic pressure must be provided in order to shut-off the SKIP valve and turn-on the STOP valve. The SKIP valve is provided with an auxiliary maximum speed regulator. Regulators' stems are provided with a threaded hole (M10x1.5) for clamping, while in order to secure speed regulators to the machine or cylinder, you can use the threaded holes available on front heads (M6), coupled with optional connecting plates. All speed regulators are provided with an auxiliary tank, to offset the volume difference between the two chambers (due to the presence of the stem in the front chamber) and to refill the unit after the leaks (even minimum) between the stem and its gasket. A piston inside the tank is pressed by a spring which ensure a slight overpressure within the system. Furthermore, a dip stick protrudes from the tank, to indicate minimum oil level.

**Le principe d'utilisation des régulateurs de vitesse hydrauliques est basé sur l'incompressibilité de l'huile qui en passant de la chambre arrière ou avant (ou vis et versa), à travers un régulateur de débit, absorbe et neutralise n'importe quelle variation de vitesse dans le vérin linéaire connecté.**

**Les régulateurs de vitesse hydrauliques peuvent décomposer, au moyen de valves by-pass (SKIP) ou de valves de blocage (STOP), les différentes étapes d'accélération ou de décélération afin de permettre, à l'accélération, de s'approcher des pièces plus rapidement, ou lentement lors de la décélération.**

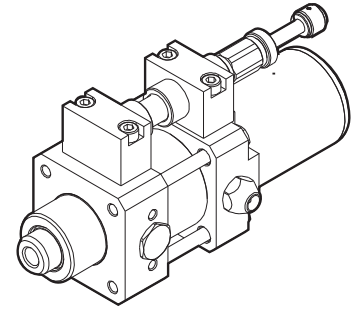
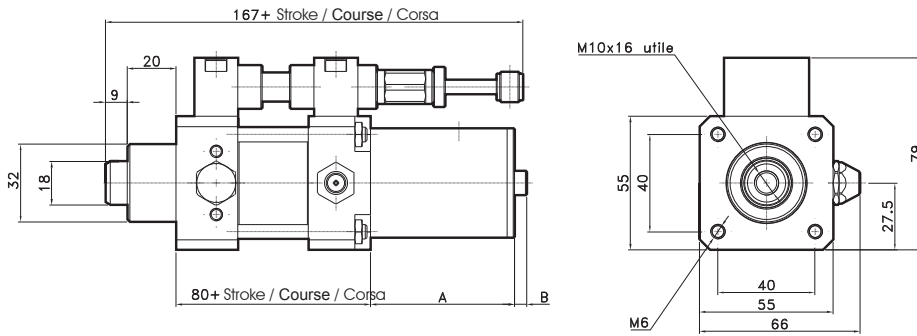
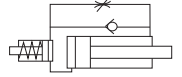
**Ces deux fonctions peuvent être produites simultanément (SKIP et STOP). Ils peuvent également être équipés de valves d'arrêt pour serrer et donc tenir toutes les pièces de déplacement connectées. Les valves d'arrêt sont des valves pneumatiques à 2 circuits: ouvert et fermé. En ce cas, les vannes sont normalement ouvertes, donc est nécessaire une pression pneumatique pour les activer. Tous les régulateurs de vitesse sont livrés avec la valve, les tiges (M10x1.5) pour le serrage. Afin de garantir une sécurité maximale dans le déplacement, vous pouvez utiliser des tiges en M6 couplées à des plaques de connexion facultatives. Tous les régulateurs de vitesse sont livrés avec un réservoir auxiliaire permettant de compenser la différence de volume d'huile entre les deux chambres. Ce réservoir peut fonctionner avec un minimum d'huile en cas de fuite proférée entre la tige et le joint dans la chambre avant. Il est toutefois fortement conseillé d'avoir un niveau maxi, et remplir à nouveau l'unité après les fuites. Un piston à l'intérieur du réservoir fonctionne grâce à un ressort qui assure une surpression légère dans le système ainsi qu'un bâton d'immersion dont l'objet est d'indiquer le niveau d'huile minimal.**

*Il principio di funzionamento dei regolatori idraulici di velocità sfrutta l'incompressibilità dell'olio che, passando dalla camera anteriore a quella posteriore (o viceversa) attraverso un regolatore di flusso assorbe e neutralizza le variazioni di velocità dell'attuatore lineare ad esso collegato.*

*I regolatori di velocità idraulici sono in grado di scomporre con opportuni accorgimenti le varie fasi di lavorazione, consentendo avvicinamenti rapidi, fasi di lavoro più o meno lente, successive fasi di movimento accelerato per l'avvicinamento ad esempio al pezzo successivo (con valvole di by-pass chiamate SKIP), inoltre si possono anche dotare di valvole di STOP che permettono di bloccare e trattenere nella posizione raggiunta gli elementi in movimento ad essi collegati. Le valvole di SKIP e di STOP sono delle valvole ad otturatore a 2 vie, azionate pneumaticamente, entrambe sono normalmente aperte pertanto è necessario erogare pressione pneumatica affinché la SKIP si escluda e la STOP si inserisca. La valvola di SKIP è dotata di un regolatore supplementare per il controllo della velocità massima. Gli steli dei regolatori presentano un foro filettato M10x1.5 utilizzabile per il fissaggio, mentre per quanto riguarda l'ancoraggio dei regolatori di velocità alla macchina o al cilindro si possono sfruttare i fori filettati presenti sulle testate anteriori M6 abbinati anche alle piastre di collegamento opzionali. Tutti i regolatori di velocità hanno un serbatoio supplementare che serve per compensare la differenza di volume tra le due camere, determinata dalla presenza dello stelo in quella anteriore, e per ripristinare le perdite, seppur minime, che si verificano tra lo stelo e la guarnizione dello stesso. All'interno del serbatoio è presente un pistone mantenuto in pressione da una molla che assicura una leggera sovrappressione al sistema. Inoltre, dal serbatoio fuoriesce un'astina con una tacca che indica il livello minimo dell'olio.*

Outlet regulation - In line oil tank  
**Régulation en sortie - Réservoir d'huile en ligne**  
 Regolazione in uscita - Serbatoio in linea

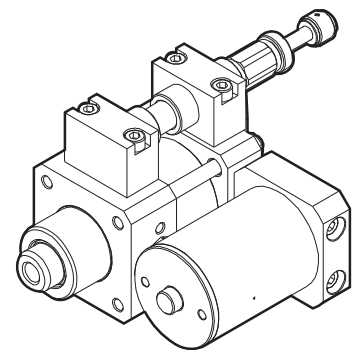
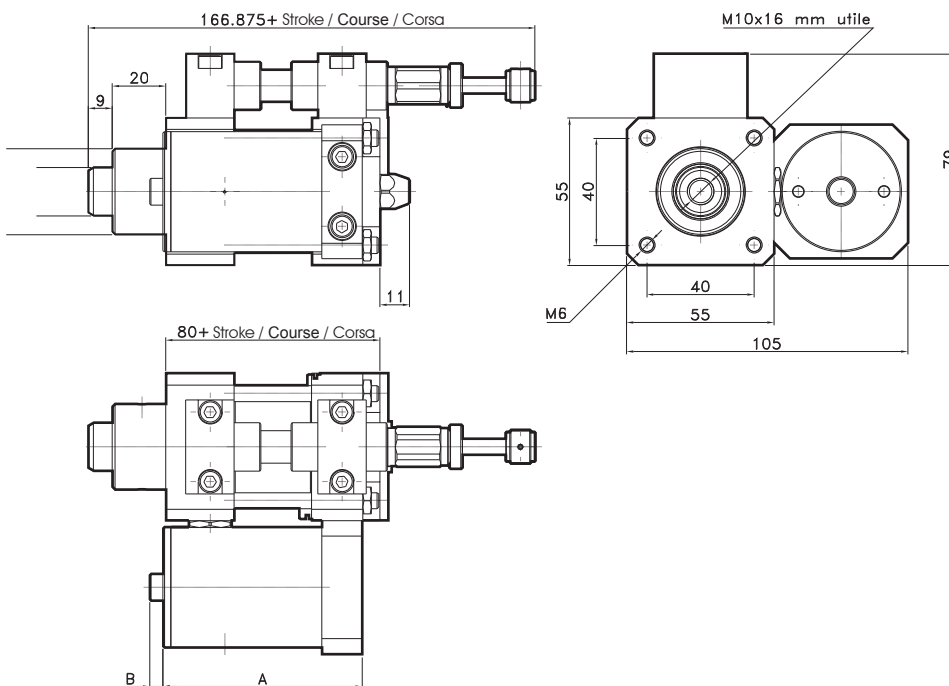
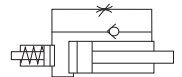
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Strokes / Course / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Outlet regulation  
**Régulation en sortie**  
 Regolazione in uscita

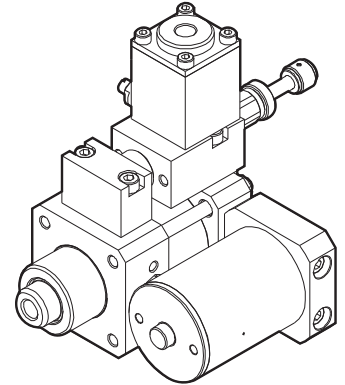
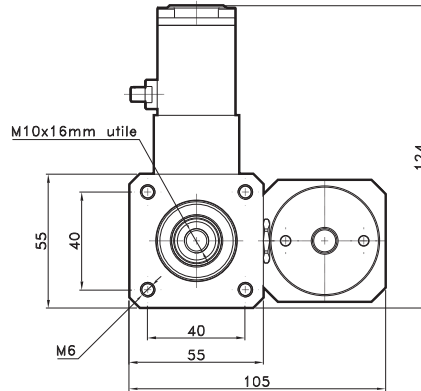
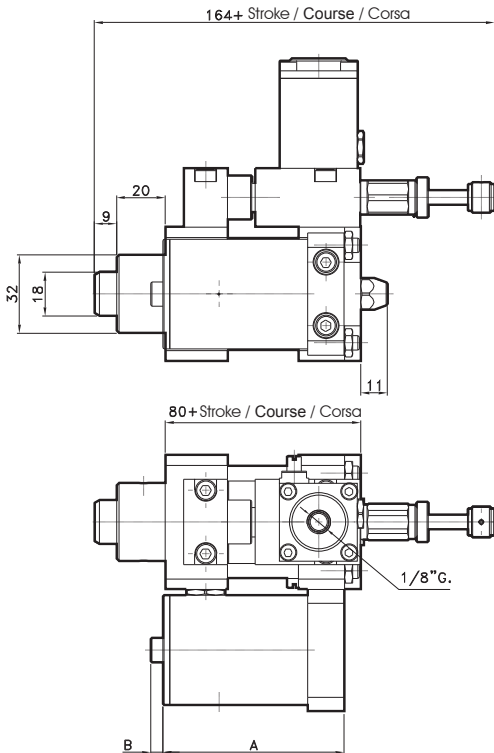
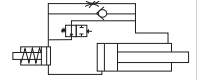
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Strokes / Course / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Outlet regulation + SKIP valve  
**Régulation en sortie + valve SKIP**  
 Regolazione in uscita + valvola SKIP

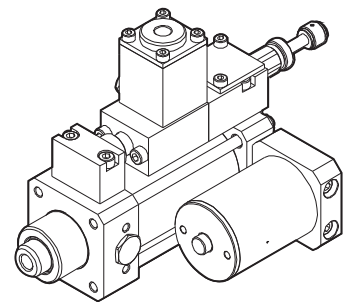
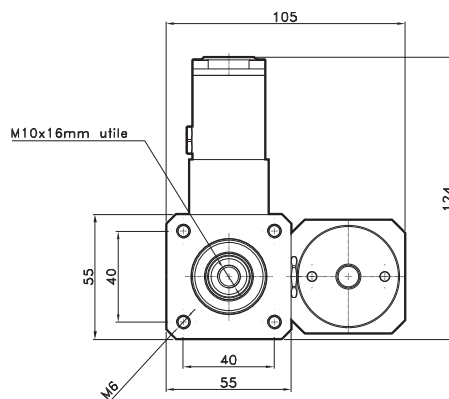
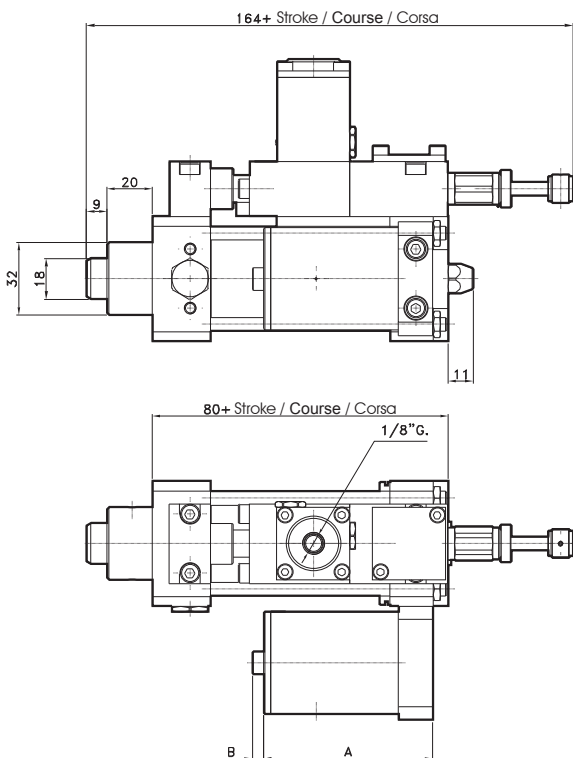
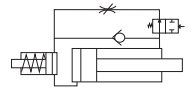
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Strokes / Course / Corsa mm	A	B max
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75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Outlet regulation + STOP valve  
**Régulation en sortie + valve STOP**  
 Regolazione in uscita + valvola STOP

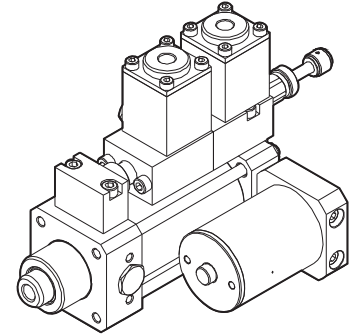
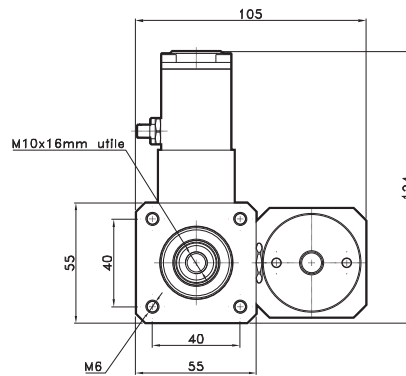
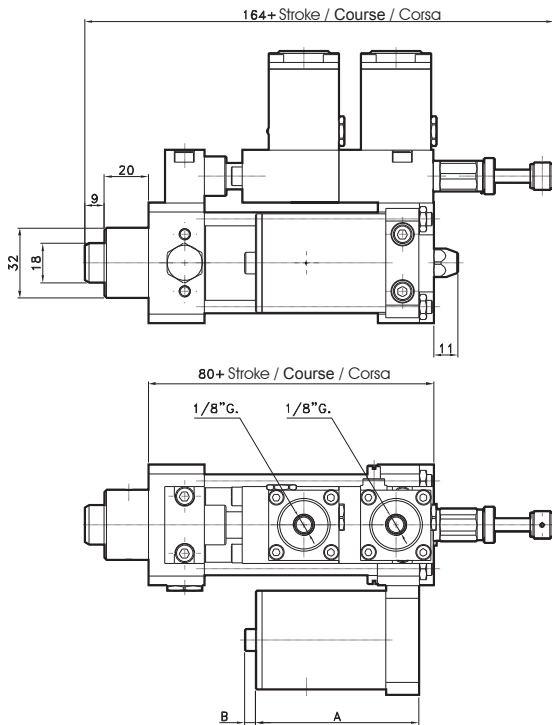
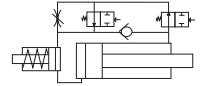
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Strokes / Course / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Outlet regulation + SKIP valve + STOP valve  
**Régulation en sortie + valve SKIP + valve STOP**  
 Regolazione in uscita + valvola SKIP + valvola STOP

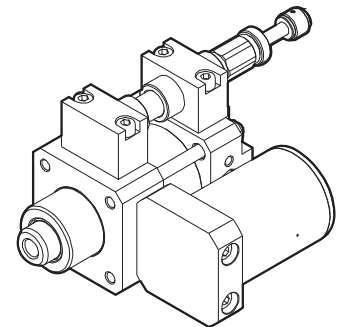
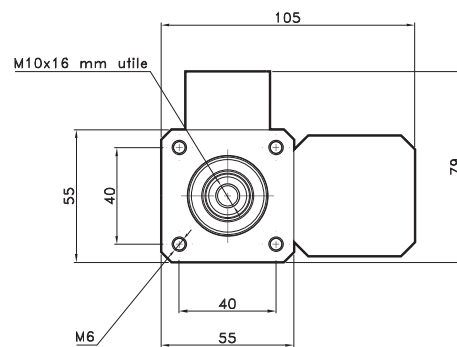
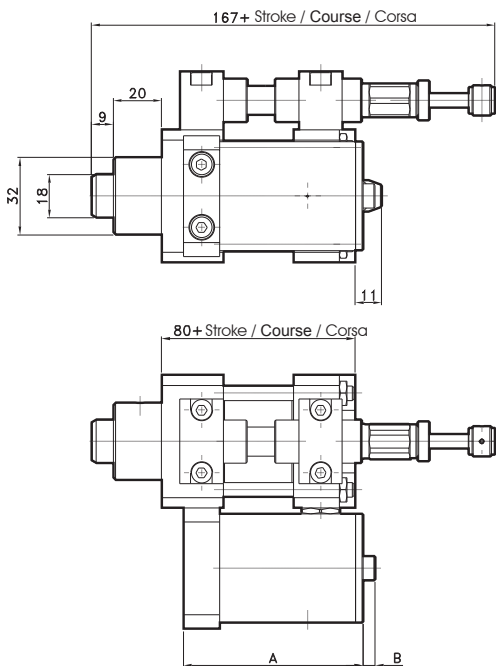
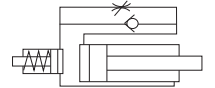
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Strokes / Corse / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Inlet regulation  
**Régulation en entrée**  
 Regolazione in rientro

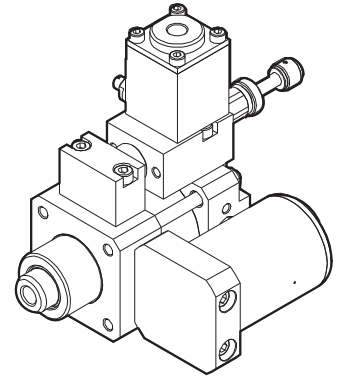
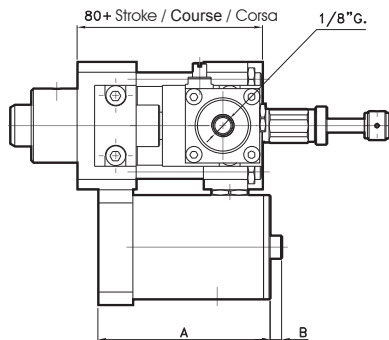
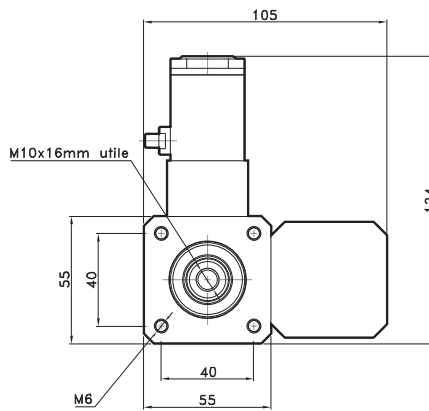
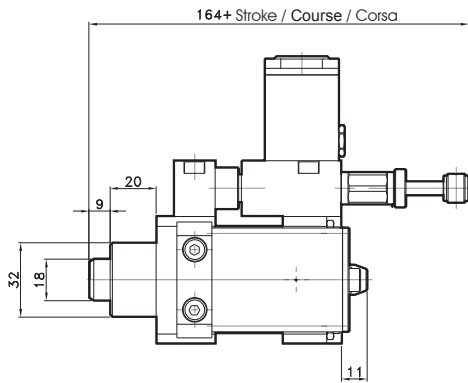
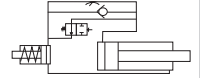
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Strokes / Corse / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Inlet regulation + SKIP valve  
**Régulation en entrée + valve SKIP**  
 Regolazione in rientro + valvola SKIP

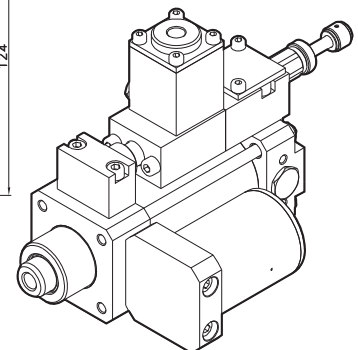
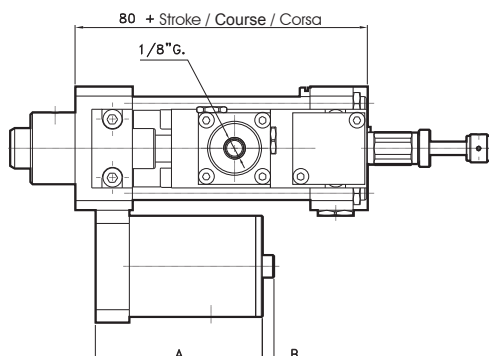
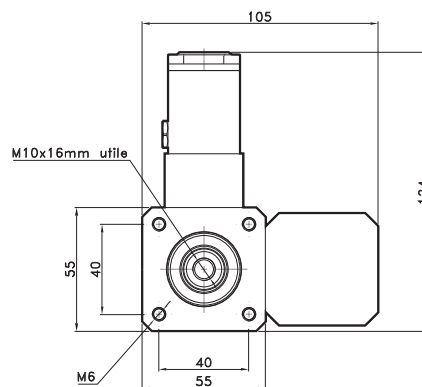
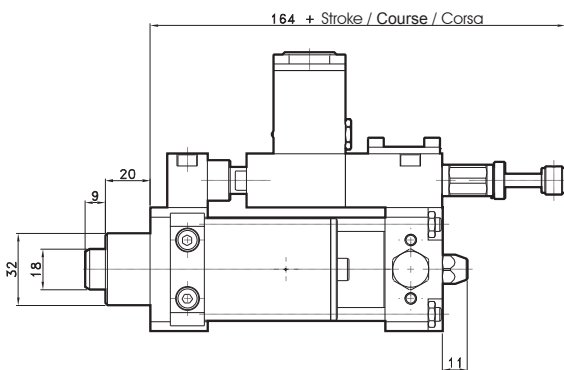
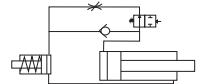
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Strokes / Corse / Course mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Inlet regulation + STOP valve  
**Régulation en entrée + valve STOP**  
 Regolazione in rientro + valvola STOP

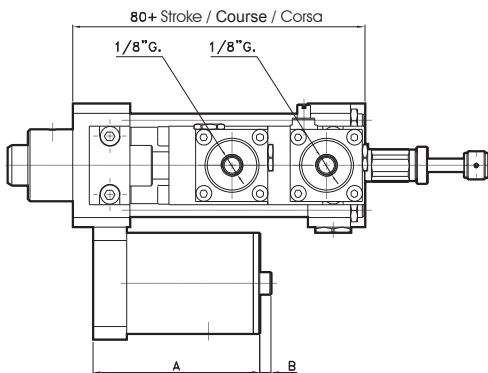
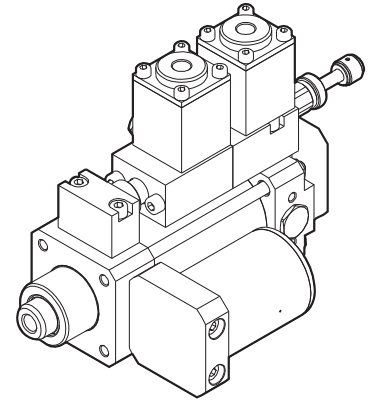
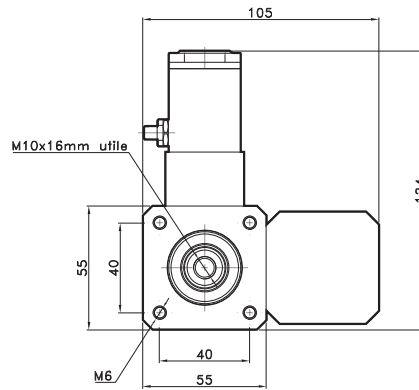
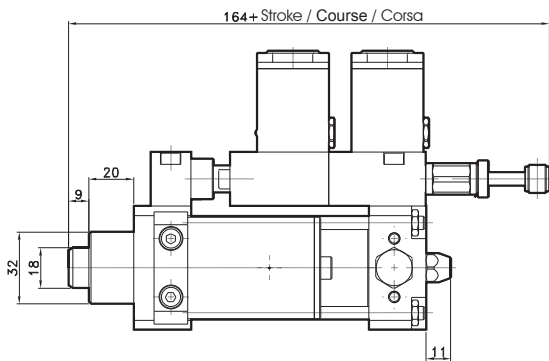
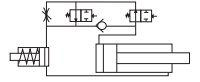
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Strokes / Corse / Course mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Inlet regulation + SKIP valve + STOP valve  
**Régulation en entrée + valve SKIP + valve STOP**  
 Regolazione in rientro + valvola SKIP + valvola STOP

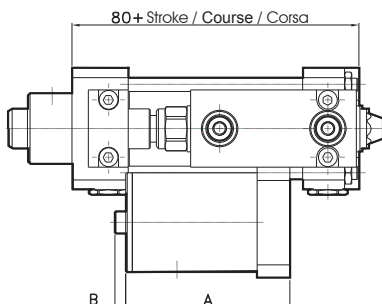
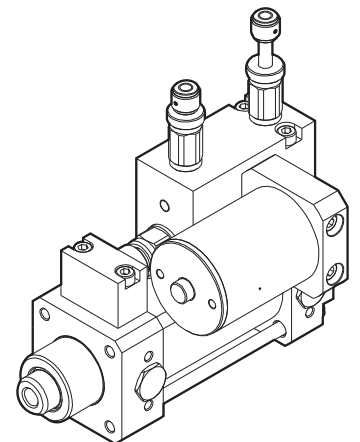
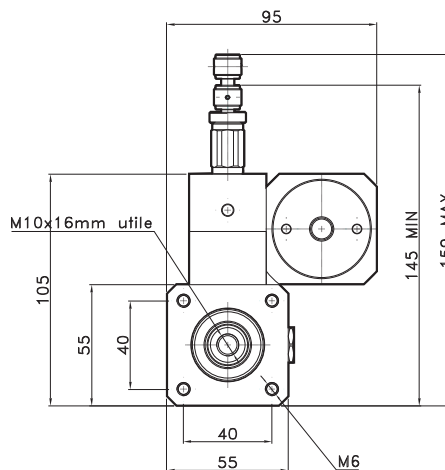
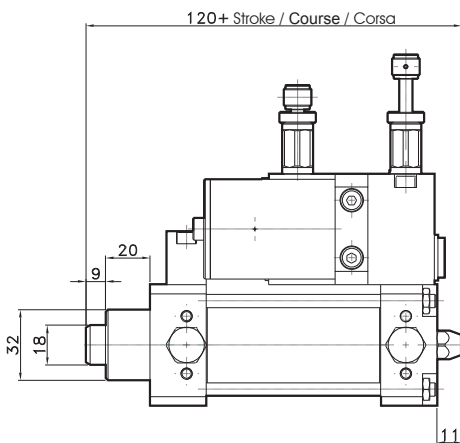
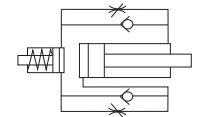
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Strokes / Corse / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Double acting regulation  
**Régulation double effet**  
 Regolazione doppio effetto

CODE: RI300132.mm

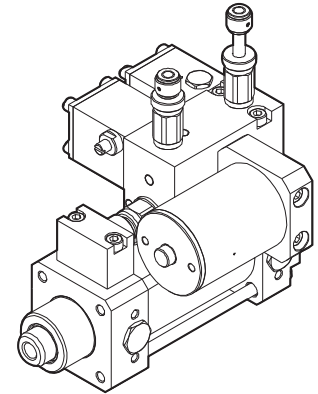
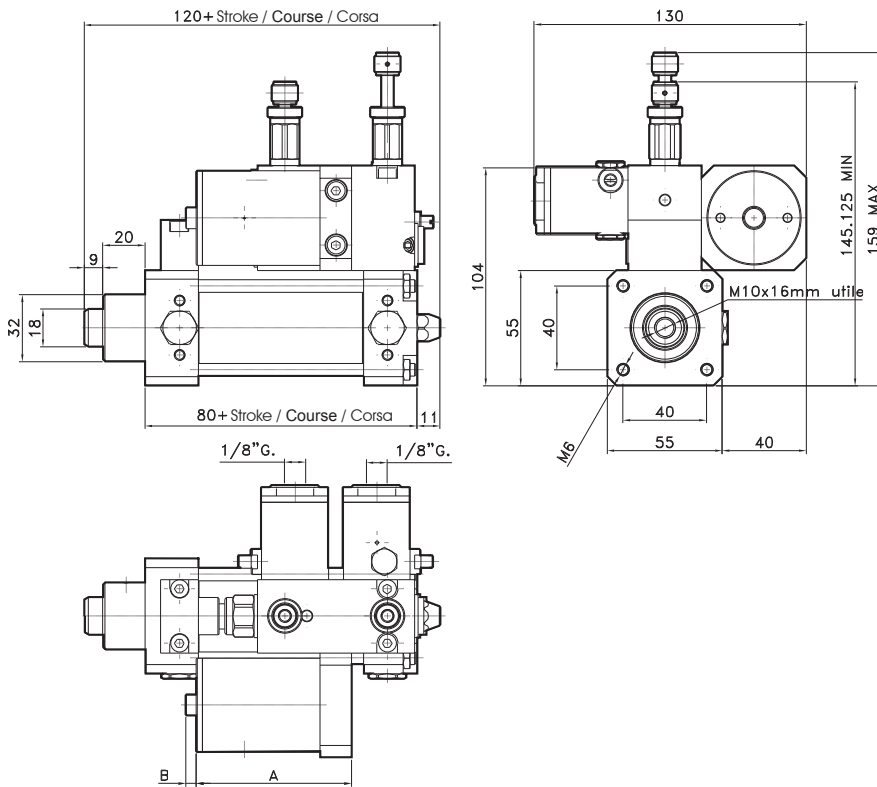
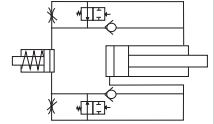


Strokes / Corse / Corsa mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125



Double acting regulation + SKIP valve  
**Régulation double effet + valve SKIP**  
 Regolazione doppio effetto + valvola SKIP

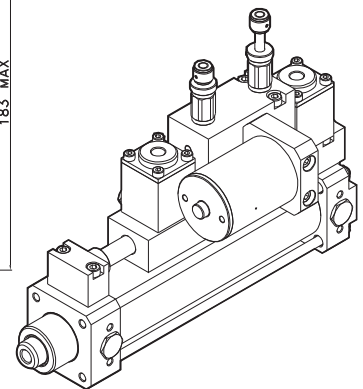
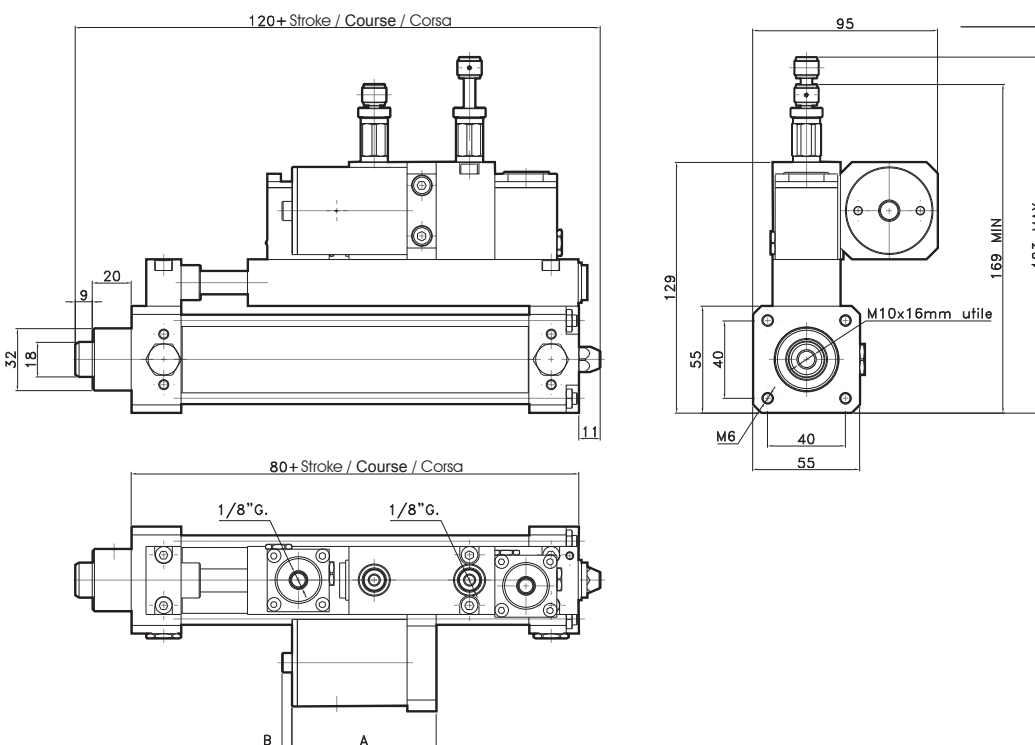
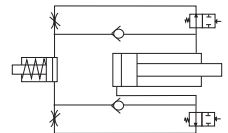
CODE: RI300134.mm



Strokes / Course / Course mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

Double acting regulation + STOP valve  
**Régulation double effet + valve STOP**  
 Regolazione doppio effetto + valvola STOP

CODE: RI300135.mm

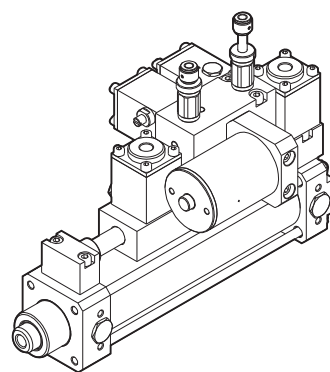
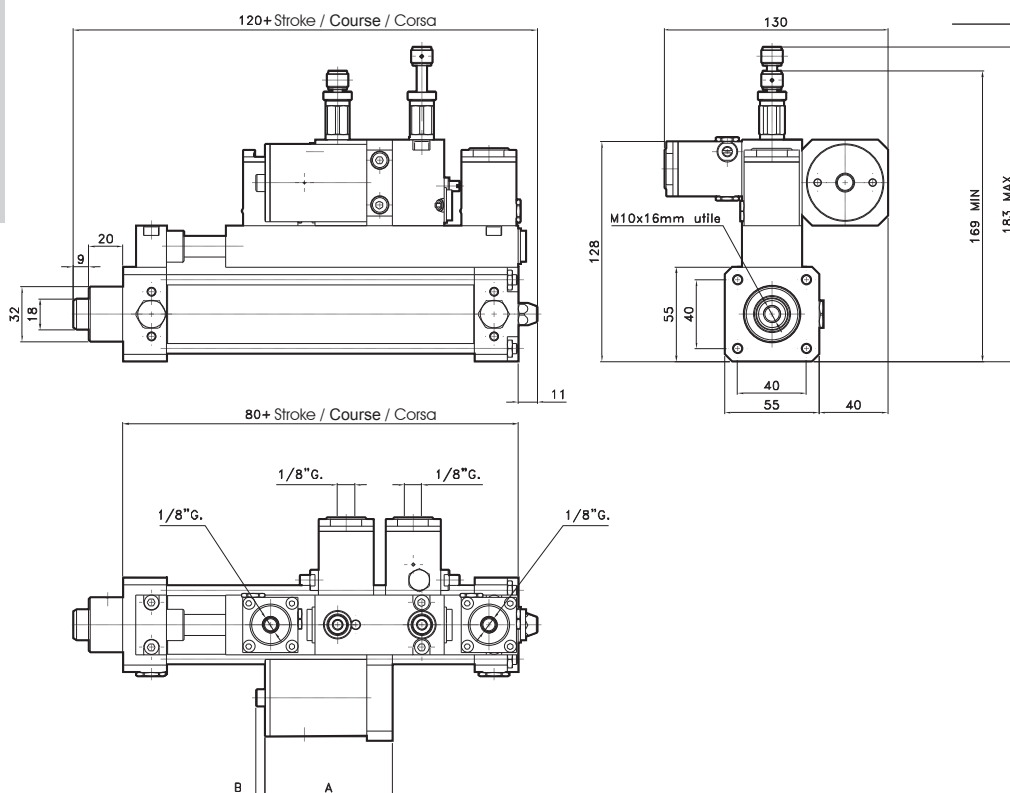
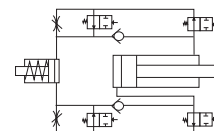


Strokes / Course / Course mm	A	B max
<75	75	25
75 - 150	90	39
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125



Double acting regulation + SKIP valve + STOP valve  
**Régulation double effet+ valve SKIP + valve STOP**  
 Regolazione doppio effetto + valvola SKIP + valvola STOP

CODE: RI300136.mm



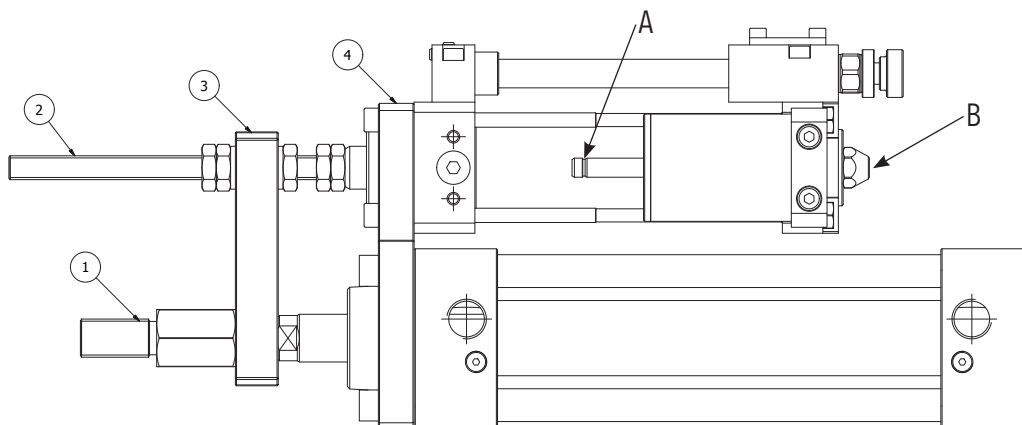
Strokes / Corse / Corsa mm	A	B max
150 - 250	142	65
250 - 350	171	87
350 - 500	222	125

**ASSEMBLY AND MAINTENANCE / MONTAGE ET MAINTENANCE / MONTAGGIO E MANUTENZIONE**

The hydraulic speed regulator is a closed circuit system, and therefore no factors can negatively affect its operation. Be careful with the hydraulic oil level, it must never drop below the minimum level indicated by the drip stick of the auxiliary tank (A). Otherwise, cavitation or air bubbles inside the circuit would hinder system regulation. Top-up the oil, if necessary, only through the dedicated unidirectional valve mounted on the rear head (B), through the usage of an oil syringe. Excess oil will be ejected through a small drain hole on the tank.

**Le régulateur de vitesse hydraulique est un système à circuit fermé et donc aucun facteur ne peut affecter son opération. Soyez prudent avec le niveau d'huile hydraulique, il ne doit jamais baisser au-dessous du niveau minimal indiqué par le bâton de goutte du réservoir auxiliaire. Dans le cas contraire des bulles d'air à l'intérieur du circuit gêneraient la régulation. Complétez l'huile, si nécessaire, seulement par la valve unidirectionnelle montée sur le fond arrière, au moyen d'une seringue. L'excès d'huile sera éjecté par un petit trou d'évacuation sur le réservoir.**

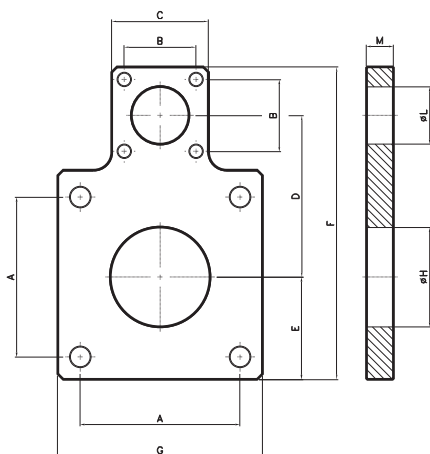
*Il regolatore idraulico di velocità è un sistema a circuito chiuso, pertanto non vi sono fattori che possono influire negativamente sul funzionamento. È necessario invece prestare attenzione al livello dell'olio idraulico che non deve mai scendere sotto il livello minimo evidenziato dalla tacca sull'astina del serbatoio supplementare (A). Se questo avvenisse si creerebbero nel circuito dei fenomeni di cavitazione o peggio delle bolle d'aria che comprometterebbero la capacità di regolazione del sistema. Gli eventuali rabbocchi devono essere effettuati esclusivamente attraverso l'apposita valvola unidirezionale montata sulla testata posteriore (B) tramite una siringa per rabbocco olio.*



POS.	CODE
1	AR4197.Ø
2	AR41981000
3	AR4196.Ø
4	AR4179.Ø

CONNECTION PLATE  
**BRIDE DE CONNEXION**  
 PIASTRA DI COLLEGAMENTO

Material: Steel  
**Matière: Acier**  
 Materiale: Acciaio



CODE	Ø
AR4179040	40
AR4179050	50
AR4179063	63
AR4179080	80
AR4179100	100

Ø	A	B	C	D	F	G	H	L	M
40	38	40	54	60	114	54	35.5	32	10
50	46.5	40	54	65	124	64	40.5	32	10
63	56.5	40	54	71.5	137	77	45.5	32	10
80	72	40	54	80	154	94	45.5	32	10
100	89	40	54	90	174	114	55.5	32	15

RODS CONNECTOR  
**ETRIER DE CONNEXION DE TIGE**  
 STAFFA DI COLLEGAMENTO STELI

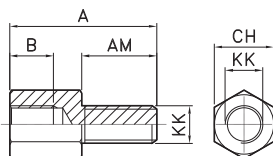
Material: Steel  
**Matière: Acier**  
 Materiale: Acciaio



CODE	Ø
AR4196040	40
AR4196050	50
AR4196063	63
AR4196080	80
AR4196100	100

NIPPLE  
**EMBOUT**  
 NIPPLO

Material: Steel  
**Matière: Acier**  
 Materiale: Acciaio



CODE	Ø
AR4197040	40
AR4197050	50-63
AR4197080	80-100

Ø	A	AM	B	CH	KK
40	47	24	14	19	M12x1.25
50-63	65	32	19	24	M16x1.5
80-100	78	40	24	30	M20x1.5

THREADED ROD  
**BARRE FILETEE**  
 BARRA FILETTATA

Material: Steel  
**Matière: Acier**  
 Materiale: Acciaio



CODE
AR41981000