

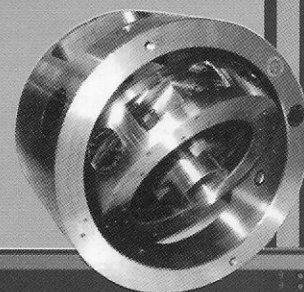
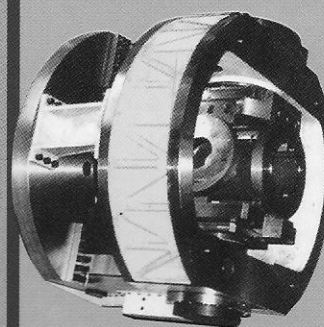
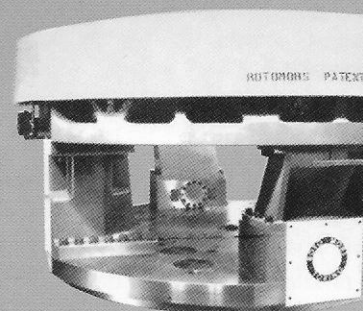
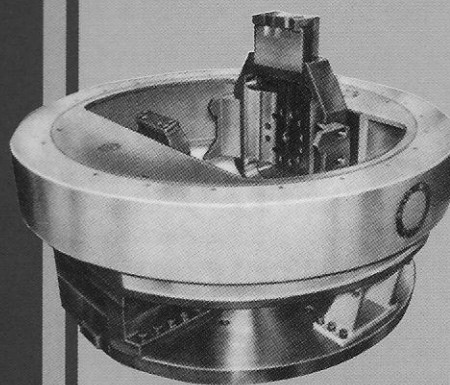


**ATTREZZI IDROPOSIZIONATORI  
AUTOMATICI PER PRESA PEZZI  
CON PIU' ASSI DI LAVORAZIONE**

**MANDRINS A INDEXATION  
AUTOMATIQUE POUR PRISE  
DE PIECES AVEC PLUSIEURS  
AXES D'USINAGE**

**AUTOMATIC INDEXING CHUCKS  
TO CLAMP COMPONENTS WITH  
MORE MACHINING CENTER LINES**

**IDRO-P  
IDRO-P-DA  
MINI IDRO-P  
IDRO-P-DAG  
IDRO-P-A-R**



## APPLICAZIONE

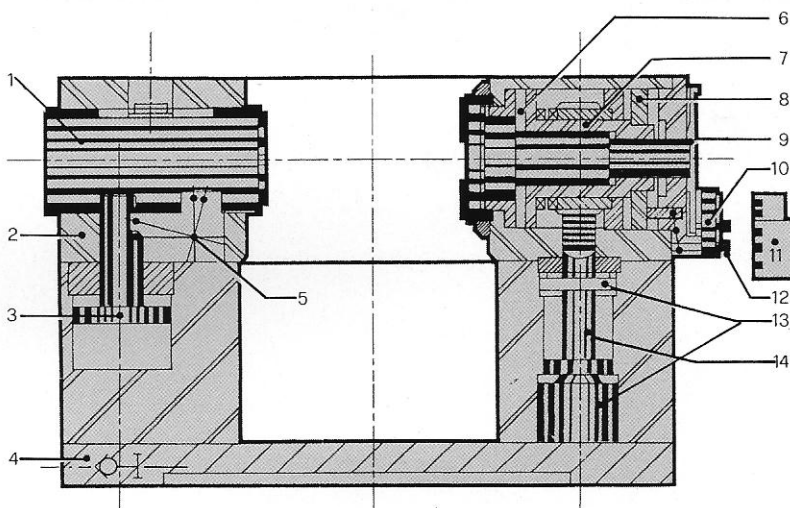
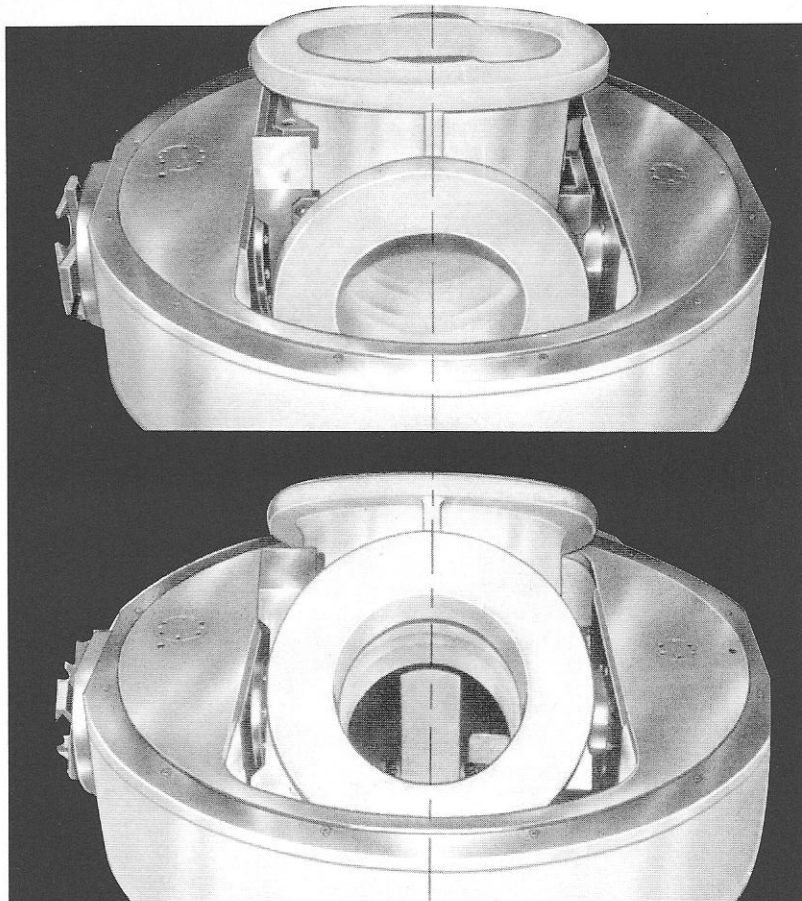
Per lavorazioni in serie di corpi – valvole, raccordi a flangie, giunti, rubinetti e distributori di medie e grandi dimensioni dove è richiesta una sola presa, seguita da una o più rotazioni automatiche a ciclo.

## APPLICATION

Pour productions en série de corps – vanne, raccords à bride, joints, robinets et distributeurs de moyennes et grandes dimensions où l'on demande une seule prise, suivie par une ou plusieurs indexations automatiques à cycle.

## APPLICATION

In mass production of: valve bodies, pipe fittings, couplings, cocks and middle and large sizes distributors where only one clamping is required, followed by one more cycle automatic indexing.



- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1 Unità di bloccaggio<br/>Unité de blocage<br/>Clamping unit</p> <p>2 Anello di blindatura integrale<br/>Bague de fermeture intégrale<br/>Full-wrap-around ring</p> <p>3 Cilindro idraulico<br/>Cylindre hydraulique<br/>Hydraulic cylinder</p> <p>4 Valvola di sicurezza<br/>Vanne de sûreté<br/>Safety valve</p> <p>5 Leva<br/>Lévier<br/>Lever</p> <p>6 Innesto frontale a denti tipo Hirth<br/>Accouplement frontal denté type Hirth<br/>Frontal crown type Hirth</p> <p>7 Unità per posizionamento angolare<br/>Unité d'indexation angulaire<br/>Indexing sleeve</p> | <p>8 Pistone comando innesto e disinnesto<br/>Piston commande accouplement-désaccouplement<br/>Lock and unlock piston</p> <p>9 Disco porta camme fisse<br/>Disque porte-cammes fixes<br/>Fixed cam ring</p> <p>10 Perni molleggiati per consensi rotazioni angolari<br/>Pivots à ressort pour les consentements des indexations angulaires<br/>Spring loaded pins for indexing realization</p> <p>11 Scatola micro di prossimità<br/>Boîte des micros de proximité<br/>Micro proximity box</p> <p>12 Perni rigidi per consensi innesto e disinnesto<br/>Pivots rigides pour les consentements d'accouplement-désaccouplement<br/>Rigid positioning pins</p> <p>13 Pistoni per comando piccole angolazioni<br/>Pistons pour le commande de petites indexations<br/>Pistons for minimum indexing angle</p> <p>14 Pistone per comando grandi angolazioni<br/>Piston pour le commande de grandes indexations<br/>Piston for max. indexing angle</p> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



## PRINCIPIO DI FUNZIONAMENTO

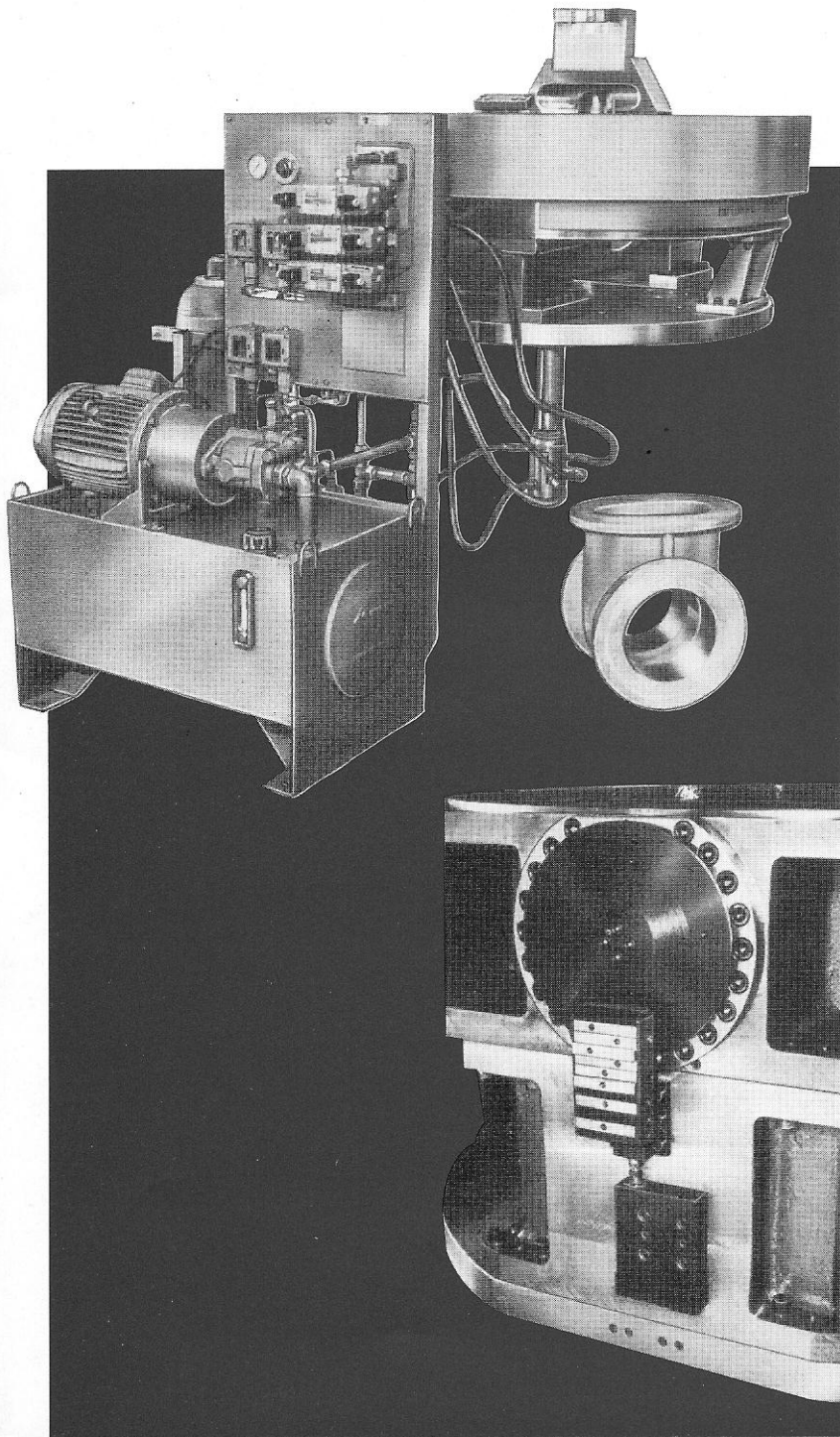
Il **bloccaggio** del pezzo è ottenuto per comando a **leva** azionata da pistone idraulico, nostro sistema abitualmente impiegato per grandi potenze. Il **posizionamento angolare** e la relativa precisione sono ottenuti per successivi innesti di 2 corone frontali a denti, sistema noto e largamente utilizzato per le tavole rotanti a dividere. (Hirth)

## PRINCIPE DE FONCTIONNEMENT

Le blocage de la pièce est obtenu par commande à **levier** actionné par un piston hydraulique, notre système habituellement employé pour grandes puissances. L'**indexation angulaire** et sa précision sont obtenues à l'aide d'accouplements de 2 couronnes frontales dentées, système connu et très employé pour les tables rotatives à indexation. (Hirth)

## PRINCIPLE OF OPERATION

The clamping of the component is obtained by **lever** control operated by hydraulic piston, i. e. the system we normally use for high power. The **angular index** and its **accuracy** is obtained with 2 frontal crowns, well known and used system for indexing rotating tables. (Hirth)



## IL NOSTRO SISTEMA IDRO-P PREVEDE

- Per il **disinnesto** delle 2 corone **non** è necessario uno spostamento assiale del **pezzo bloccato** e quindi l'**asse di rotazione** angolare del pezzo **coincide** con l'asse di lavoro
- Con una **sola coppia** di corone dentate a **settori** è possibile ottenere qualsiasi **angolazione multipla di 90°** o **frazione non multipla di 90°** come ad esempio 4°37'54" per la lavorazione delle **sedi coniche** nei corpi valvola. In questo caso l'idro-posizionatore è asservito con 8 mandate di olio in pressione ed il comando della rotazione angolare è ottenuto con un nostro sistema esclusivo a **3 pistoni idraulici indipendenti coassiali** montati sull'asse della cremagliera.
- Per il controllo dei comandi e delle sicurezze l'IDRO-P prevede un disco rotante porta cammes fisse agente su un dispositivo a **perni molleggiati**, uno per ogni sequenza, che tramite **micro di prossimità** informano l'**unità di governo** sull'avvenuto posizionamento angolare e sul bloccaggio.

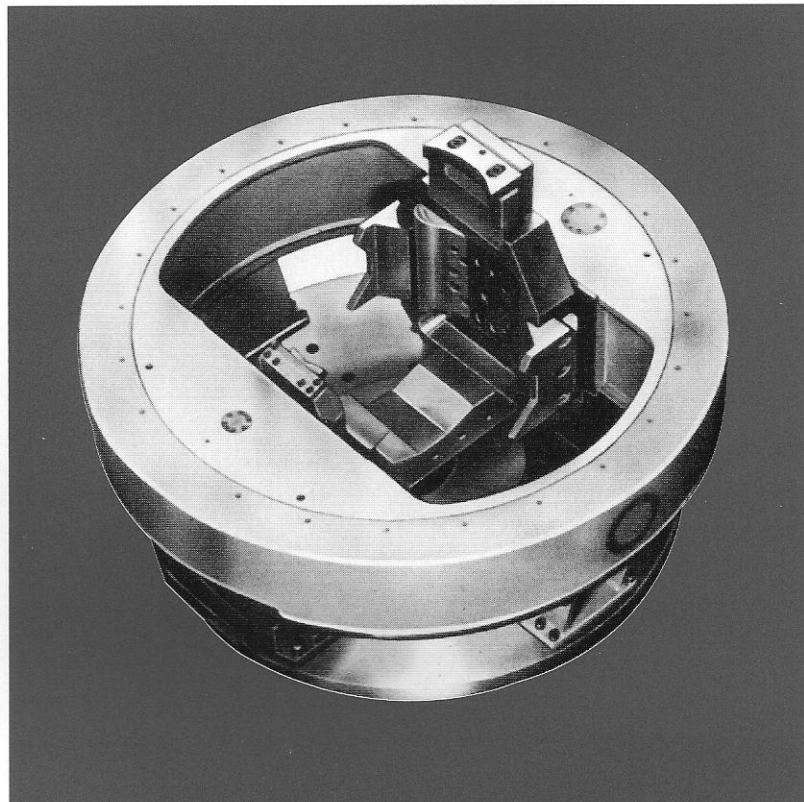
## NOTRE SYSTEME IDRO-P PREVOIT

- Aucun **déplacement axial** de la pièce bloquée **n'est** nécessaire pour le **désaccouplement** des 2 couronnes et donc l'**axe de rotation angulaire** de la pièce **coincide avec l'axe d'usinage**.
- Avec une **seule couple** de couronnes dentées à **secteurs** on peut obtenir n'importe quelle **indexation multiple de 90° ou fraction non multiple de 90°**, par exemple 4°37'54", pour l'usinage des **sièges coniques** des corps vanne. Dans ce cas le mandrin à indexation est asservi avec 8 refoulements d'huile et le commande de la rotation angulaire s'obtient par notre système exclusif à **3 pistons hydrauliques indépendents coaxiaux** montés sur l'axe de la crémaillère.
- Pour le contrôle des commandes et des sûretés notre IDRO-P est équipé d'un **disque rotatif** portecammes fixes agissant sur un dispositifs à **pivots à ressorts**, un pour chaque séquence, qui par des **micros de proximité** donnent à l'**unité de commande** confirmation que l'**indexation angulaire** et le blocage sont assurés.

## OUR IDRO-P SYSTEM PROVIDES

- For the 2 crowns **disengaging no axial shift** of the **damped component** is necessary letting the **angular indexing center line** of the component **coincide with the machining center line**.
- With only one crown whatever **indexes of 90° or fractions of 90°** (such as 4°37'54") are readily obtainable in conical seats machining. In the case the indexing chuck is feeded with 8 in pressure oil manifolds and the control of the angular indexing is obtained by our exclusive system having **3 coaxial hydraulic independent pistons** mounted on the centerline of the rack piston.
- For the control of the signals and safeties the IDRO-P foresees a cam plate acting on a springing pins device, one for each sequence, that by proximity **microswitches** gives to the **control unit** the signal that indexing angular position and clamping took place.

# IDRO-P

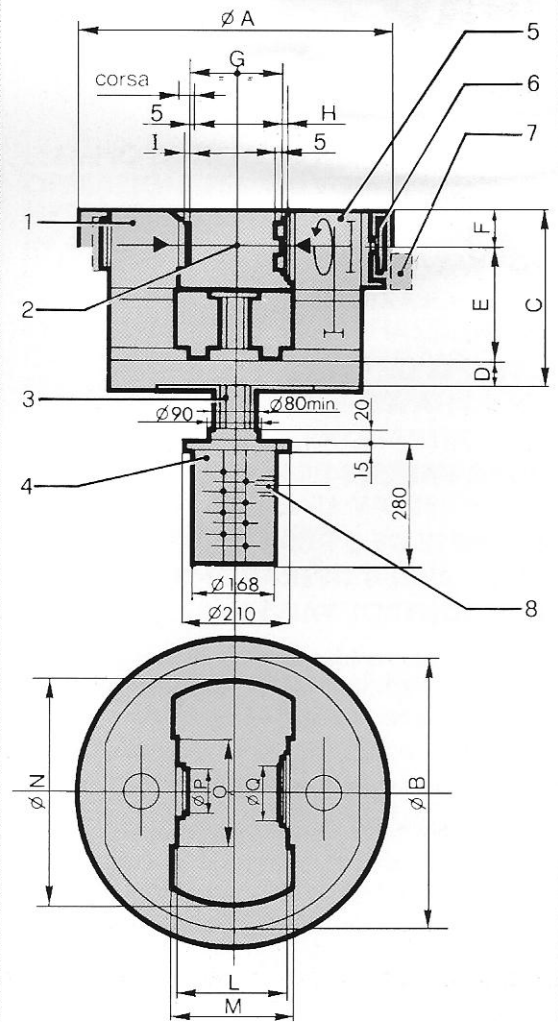
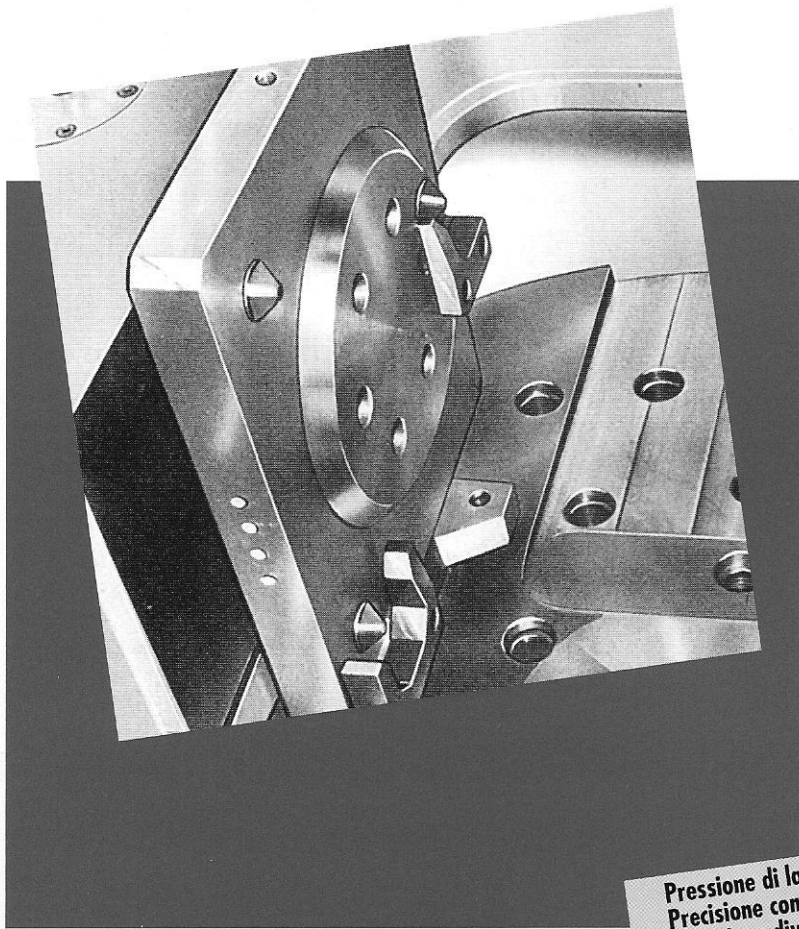
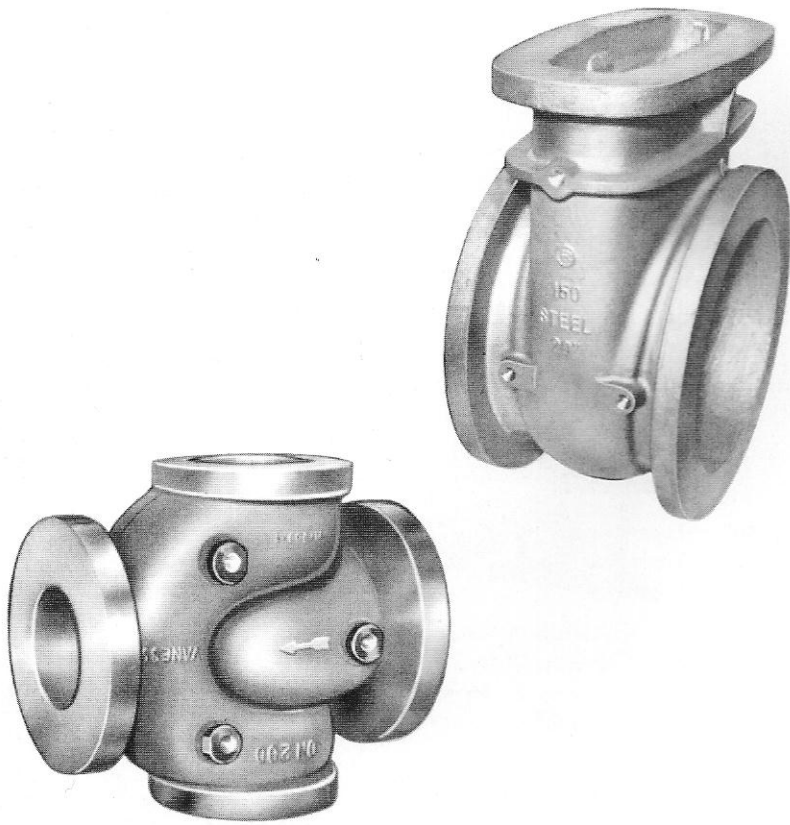


## IDRO-P

TIPO TYPE	51	56	61	66	71	76	81	86	91	101	106	131	141	151	161	171	
ØA	645	695	745	795	845	895	850	900	950	1150	1200	1540	1640	1740	1840	1940	
ØB	620	670	720	770	820	870	820	870	920	1120	1170	1500	1600	1700	1800	1900	
C	365	390	430	455	480	505	525	550	575	640	665	850	900	950	1000	1050	
D	50	50	50	50	50	50	60	60	60	65	65	70	70	70	70	70	
E	250	275	300	325	350	375	350	375	400	450	475	600	650	700	750	800	
F	65	65	80	80	80	80	115	115	115	125	125	180	180	180	180	180	
G	200	250	300	350	400	450	400	450	500	500	550	600	700	800	900	1000	
H	8	8	8	8	8	8	8	8	8	15	15	22	22	22	22	22	
I	5	5	5	5	5	5	5	5	5	8	8	15	15	15	15	15	
L	250	300	350	400	450	500	450	500	550	570	620	700	800	900	1000	1100	
m	260	310	360	410	460	510	460	510	560	590	640	730	830	930	1030	1130	
ØN	500	550	600	650	700	750	700	750	800	970	1020	1200	1300	1400	1500	1600	
o	200	200	250	250	250	250	300	300	300	400	400	600	600	600	600	600	
ØP. h 7	95	95	95	95	95	95	140	140	140	150	150	230	230	230	230	230	
ØQ. h 7	120	120	120	120	120	120	180	180	180	190	190	270	270	270	270	270	
PD2 Kgm.	48	70	100	136	180	253	252	420	510	704	867	1900	3300	5100	7400	10500	
Max. R. P. M.	1200	1150	1100	1000	950	900	950	900	850	650	600	500	475	450	425	400	
Peso Kg. Poids Kgs. Weight	300	350	400	450	500	600	700	750	800	1100	1200	1800	2500	3300	4100	5000	
Corsa Course Stroke	35										40						
Max. forza blocc. Kg. Force max. de bloc. Max. clamping force	6000		7000				11000			13000		16000					
Attacco ASA-DIN Fixation Spindle mounting	11"			15"				20"			28"		-	-	-	-	-

Le dimensioni indicate valgono solo per informazione generale.  
Les dimensions indiquées sont pour information seulement.  
Dimensions indicated for general information only.





- |   |                                                                      |   |                                                                                                        |
|---|----------------------------------------------------------------------|---|--------------------------------------------------------------------------------------------------------|
| 1 | Testa di bloccaggio<br>Tête de blocage<br>Clamping head              | 5 | Testa di rotazione nei due sensi<br>Tête d'indexation<br>dans les deux sens<br>Dual direction rotation |
| 2 | Centro di rotazione<br>Centre d'indexation<br>Cent. line of index    | 6 | Disco con camme<br>Disque avec cammes<br>Cam plate                                                     |
| 3 | Fascio tubiero<br>Ensemble de tuyaux<br>Hydraulic feed pipes         | 7 | Scatola micro di prossimità<br>Boîte micros de proximité<br>Micro proximity box                        |
| 4 | Distributore rotante<br>Distributeur rotatif<br>Rotating distributor | 8 | Ricupero olio 1" gas<br>Recupération huile 1" gas<br>Oil recovery 1" gas                               |

**Pressione di lavoro max. 70 Atm**  
**Precisione concentricità  $\pm 0.05$**   
**Precisione divisione  $\pm 10'' \div 30''$**

**Pression d'usage 70 bar max.**  
**Précision de concentricité  $\pm 0.05$**   
**Précision d'indexation  $\pm 10'' \div 30''$**

**Machining pressure 70 bar max.**  
**Concentricity accuracy  $\pm 0.05$**   
**Index accuracy  $\pm 10'' \div 30''$**

**ESEMPIO DI CICLO  
IN 5 FASI E  
4 OPERAZIONI  
PER VALVOLE  
DI REGOLAZIONE**

**EXEMPLE DE CYCLE  
EN 5 PHASES  
ET 4 OPERATIONS  
POUR VANNES DE REGULATION**

**EXAMPLE OF 5 PHASES  
CYCLE AND 4 OPERATIONS  
FOR CONTROL VALVES**

Schema per centrale elettroidraulica per comando idro-  
posizionatore con distributore a 6 mandate.

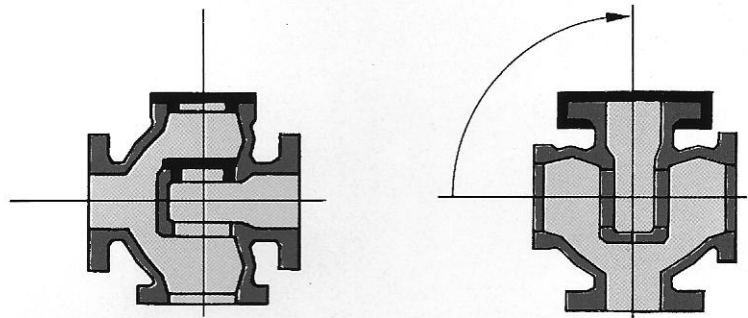
La pressione di esercizio, la portata, la capacità della vasca e la  
potenza del motore sono da definirsi in funzione del tipo di idro-  
posizionatore impiegato.

Schéma pour centrale de commande électro - hydrauli-  
que pour contrôle du mandrin indexable avec distribu-  
teur tournant à 6 refoulements.

La pression de service, de débit, la capacité du bac et la puissan-  
ce du moteur sont à  
établir selon le type de mandrin indexable employé.

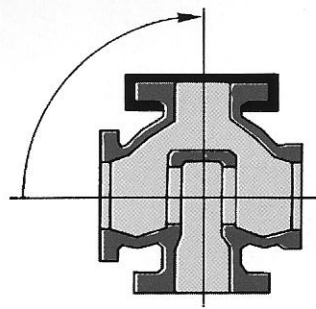
Drawing for electro - hydraulic unit for indexing chuck  
control with 6 manifolds rotating distributor.

The operating pressure, the delivery, the capacity of the tank  
and the motor power are to be stated according to the indexing  
chuck used.

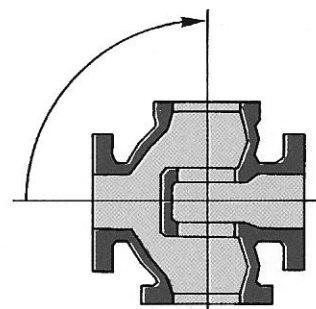


I fase - I operazione  
1° I phase - I opération  
I phase - I operation

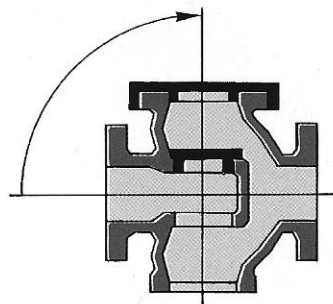
IV fase - IV operazione  
4° IV phase- IV opération  
IV phase- IV operation



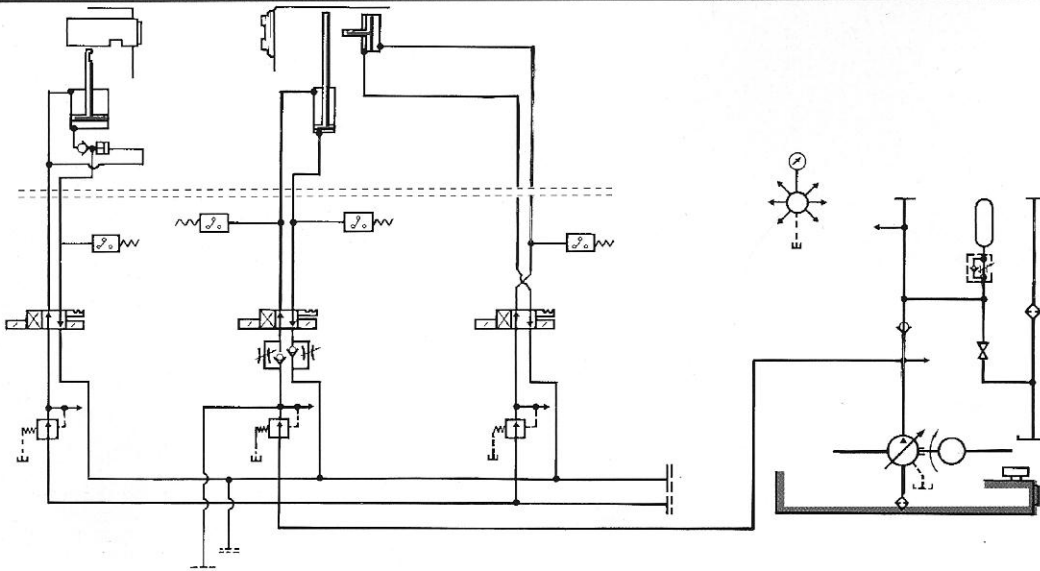
II fase - II operazione  
2° II phase - II opération  
II phase - II operation



V fase - V operazione  
5° V phase - V opération  
V phase - V operation



III fase - III operazione  
3° III phase - III opération  
III phase - III operation





**ESEMPIO DI CICLO IN 7 FASI E 5 OPERAZIONI PER VALVOLE A SARACINESCA CON I CENTRI DEI SEGGI IN ASSE**

**EXEMPLE DE CYCLE EN 7 PHASES ET 5 OPERATIONS POUR VANNES AVEC CENTRES DES SIEGES EN AXE**

**EXAMPLE OF 7-PHASES-CYCLE AND 5 OPERATIONS FOR GATE VALVES WITH SEATS CENTERS IN AXIS**

**Schema per centrale elettroidraulica per comando idroposizionatore con collettore rotante a 8 mandate.**

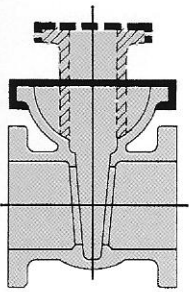
La pressione di esercizio, la portata, la capacità della vasca e la potenza del motore sono da definirsi in funzione del tipo di idroposizionatore impiegato.

**Schéma pour centrale de commande électro-hydraulique pour contrôle du mandrin indexable avec distributeur à 8 refoulements.**

La pression de service, le débit, la capacité du bac et la puissance du moteur sont à établir selon le type de mandrin indexable employé.

**Drawing for electro-hydraulic unit for indexing chuck control with 8 manifolds rotating distributor.**

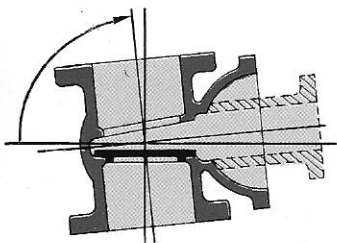
The operating pressure, the delivery, the capacity of the tank and motor power are to be stated according to the indexing chuck used.



I fase - I operazione

1° I phase - I opération

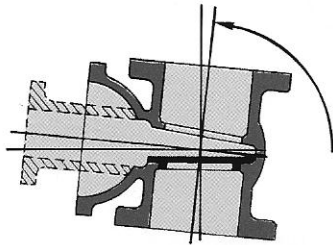
I phase - I operation



II fase - II operazione

2° II phase - II opération

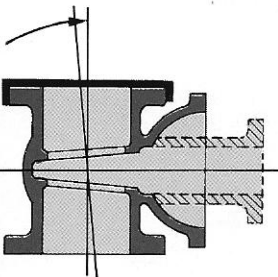
II phase - II operation



V fase - IV operazione

5° V phase - IV opération

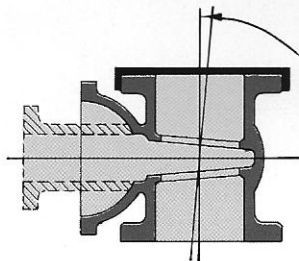
V phase - IV operation



III fase - III operazione

3° III phase - III opération

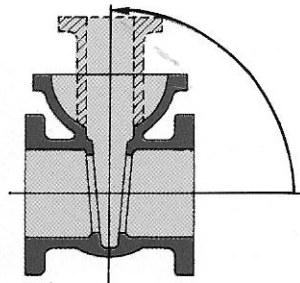
III phase - III operation



VI fase - V operazione

6° VI phase - V opération

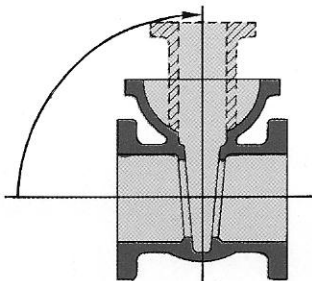
VI phase - V operation



IV fase

4° IV phase

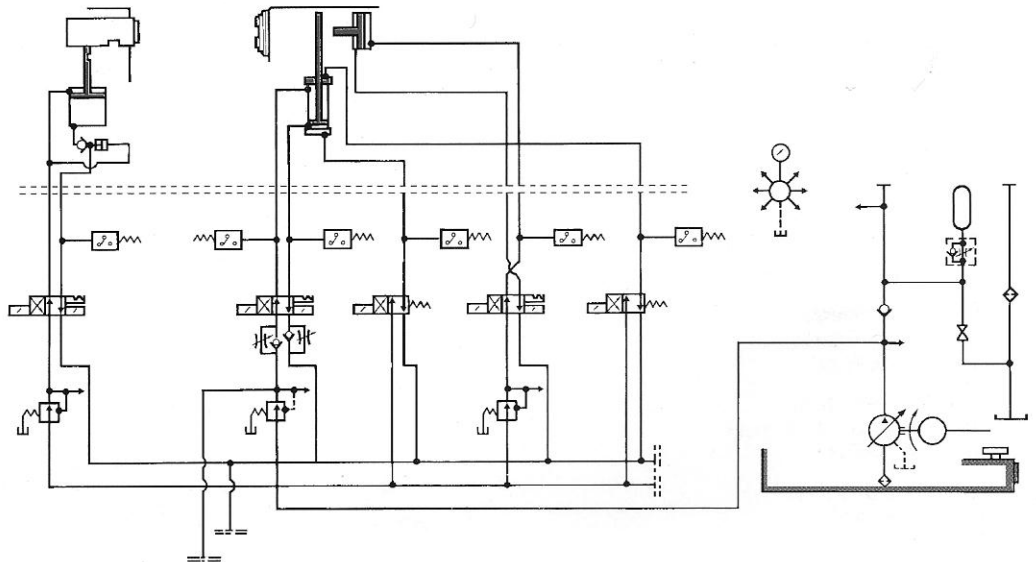
IV phase



VII fase - scarico

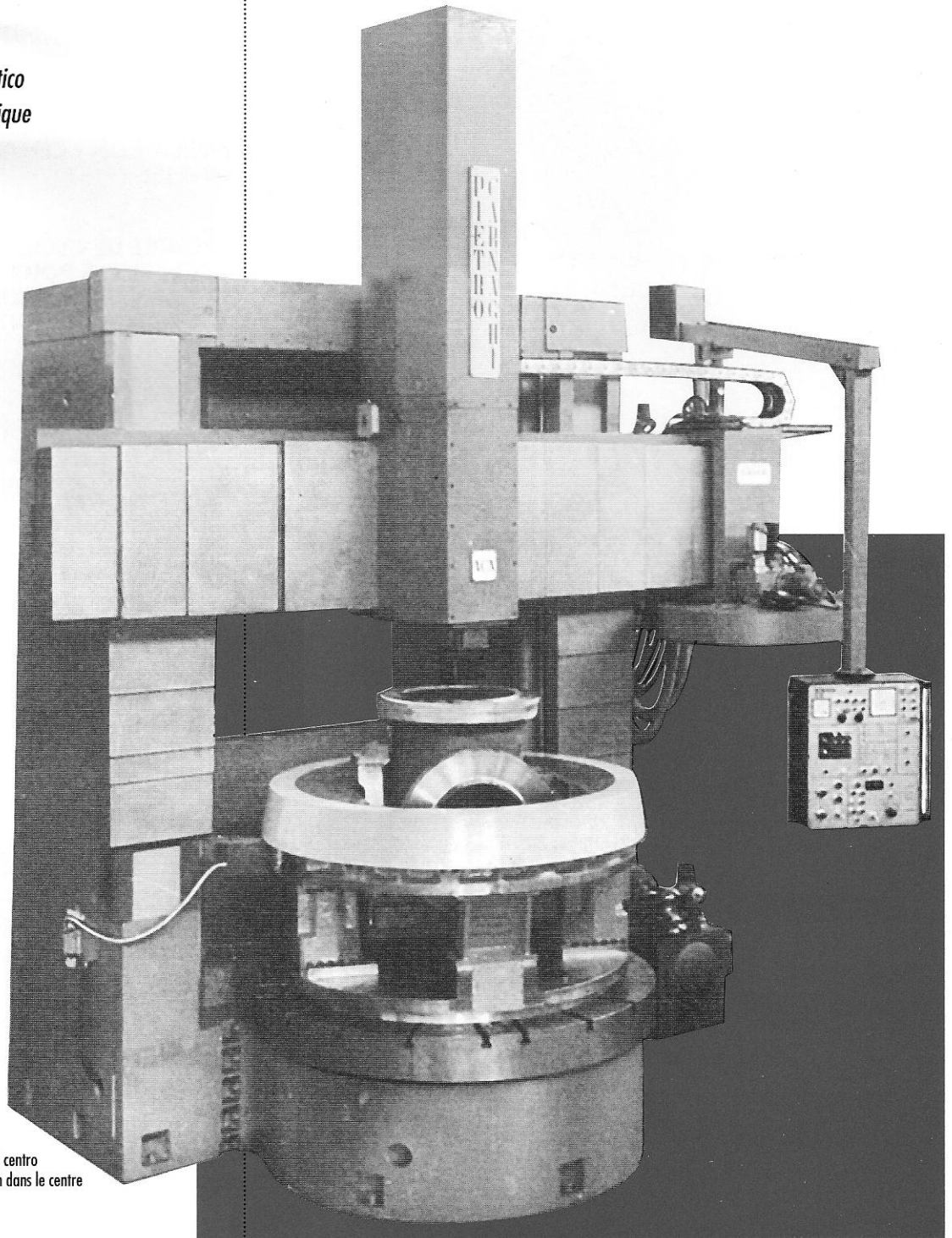
7° VII phase - déchargement

VII phase - discharged



# IDRO-P-DA

*con disassamento automatico*  
*avec disaxement automatique*  
*with automatic shifting*



15 Cilindro per posizionare l'attrezzo al centro  
Cylindre pour positionner le mandrin dans le centre  
Indexing cylinder to center line

16 Collettore a 11 mandate  
Distributeur à 11 refoulements  
11 Manifolds distributor

17 Guide prismatiche  
Glissières prismatiques  
Prismatic guides

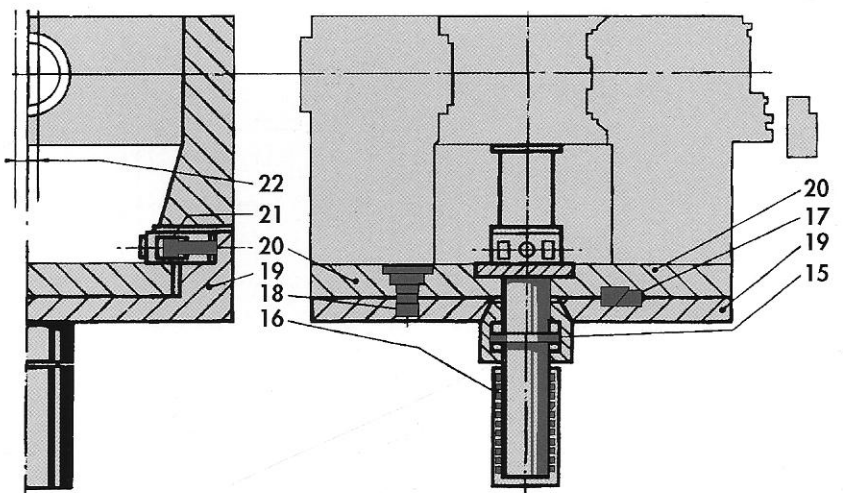
18 Cilindri di bloccaggio  
Cylindres de blocage  
Clamping cylinders

19 Piastra fissa di base  
Plaque de base fixe  
Fix base plate

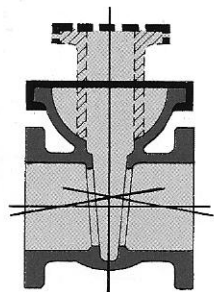
20 Piastra scorrevole porta attrezzo  
Plaque coulissante porte-mandrin  
Sliding chuck holding plate

21 Cilindri comando disassamento  
Cylindres de commande du désaxement  
Shifted control cylinders

22 Corsa di disassamento  
Course de désaxement  
Shifting stroke



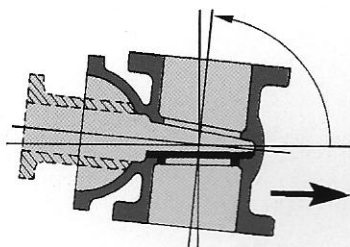




I fase - I operazione

1° I phase - I opération

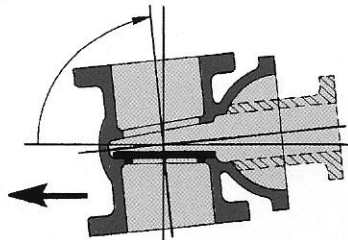
I phase - I operation



V fase - IV operazione

5° V phase - IV opération

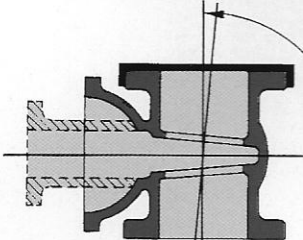
V phase - IV operation



II fase - II operazione

2° II phase - II opération

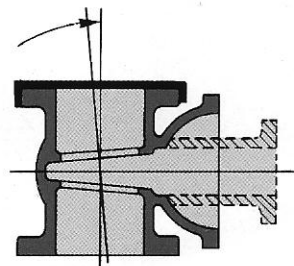
II phase - II operation



VI fase - V operazione

6° VI phase - V opération

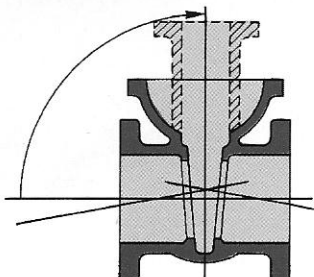
VI phase - V operation



III fase - III operazione

3° III phase - III opération

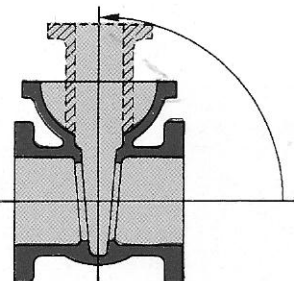
III phase - III operation



VII fase - scarico

7° VII phase - déchargement

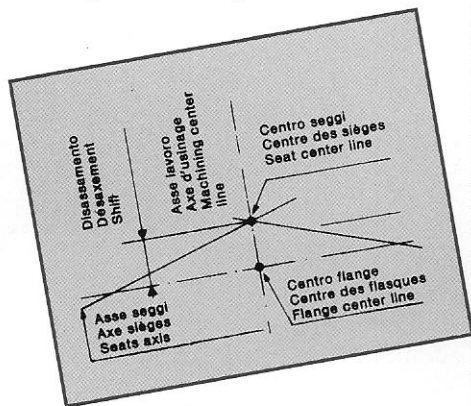
VII phase - discharged



IV fase

4° IV phase

IV phase



ESEMPIO DI CICLO IN 7 FASI E 5 OPERAZIONI PER VALVOLE A SARACINESCA CON I CENTRI DEI SEGGI DISASSATI

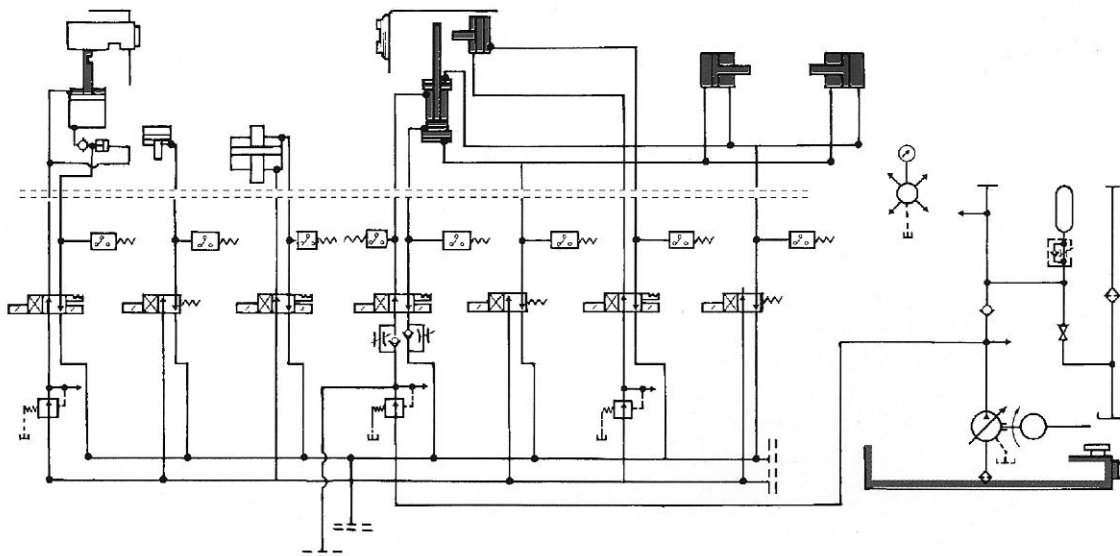
EXEMPLE DE CYCLE EN 7 PHASES ET 5 OPERATIONS POUR VANNES AVEC CENTRES DES SIEGES DESAXES

EXAMPLE OF 7-PHASE-CYCLE AND 5 OPERATIONS FOR GATE VALVES WITH SHIFTED SEATS CENTERS

Schema per centrale elettroidraulica per comando idroposizionatore con collettore rotante a 11 mandate.

Schéma pour centrale de commande électro-hydraulique pour contrôle du mandrin à indexation avec distributeur à 11 refoulements.

Drawing for electro-hydraulic unit for indexing chuck control with 11 manifolds rotating distributor.



# MINI-IDRO-P

**Attrezzi idro-posizionatori automatici** predisposti per 4 posizioni angolari a 90° e per il bloccaggio di corpi valvole, raccordi a croce, od altri particolari di piccole dimensioni con 4 assi di lavorazione.

Per l'alimentazione idraulica è previsto un distributore rotante a 6 mandate più 1 recupero con flangia e fascio tubiero. Per il controllo delle 4 posizioni angolari la testa rotante dell'attrezzo è dotata di un dispositivo interno a camme con asta di rinvio coassiale al fascio tubiero ed attraverso il collettore che agisce su 4 micro di prossimità.

**Mandrins hydro-indexables automatiques** prédisposés pour 4 positions angulaires à 90° et pour le blocage des corps vannes, raccords à croix, ou autres particuliers de petites dimensions avec 4 axes d'usinage. Pour l'alimentation hydraulique on prévoit 1 distributeur tournant à 6 refoulements plus 1 récupération avec flasque et faisceau de tuyaux.

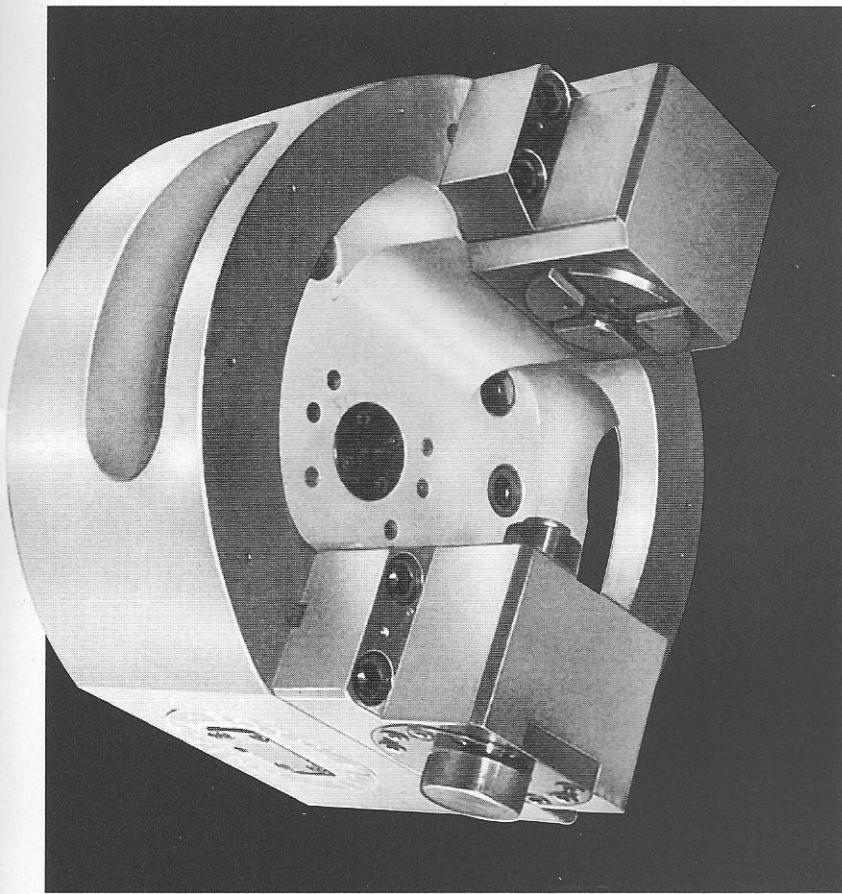
Pour le contrôle des 4 positions angulaires la tête tournante du mandrin est douée d'un dispositif intérieur à cames avec tige de renvoi coaxiale au faisceau de tuyaux et à travers le collecteur qui agit sur 4 micros de proximité.

**Automatic indexing chucks** predisposed for 4 angular positions at 90° and the clamping of body valves, spiders, or other parts of little dimensions with 4 working axles. For the hydraulic feeding a rotating distributor is provided with 6 manifolds plus 1 recovery with flange and tube nest.

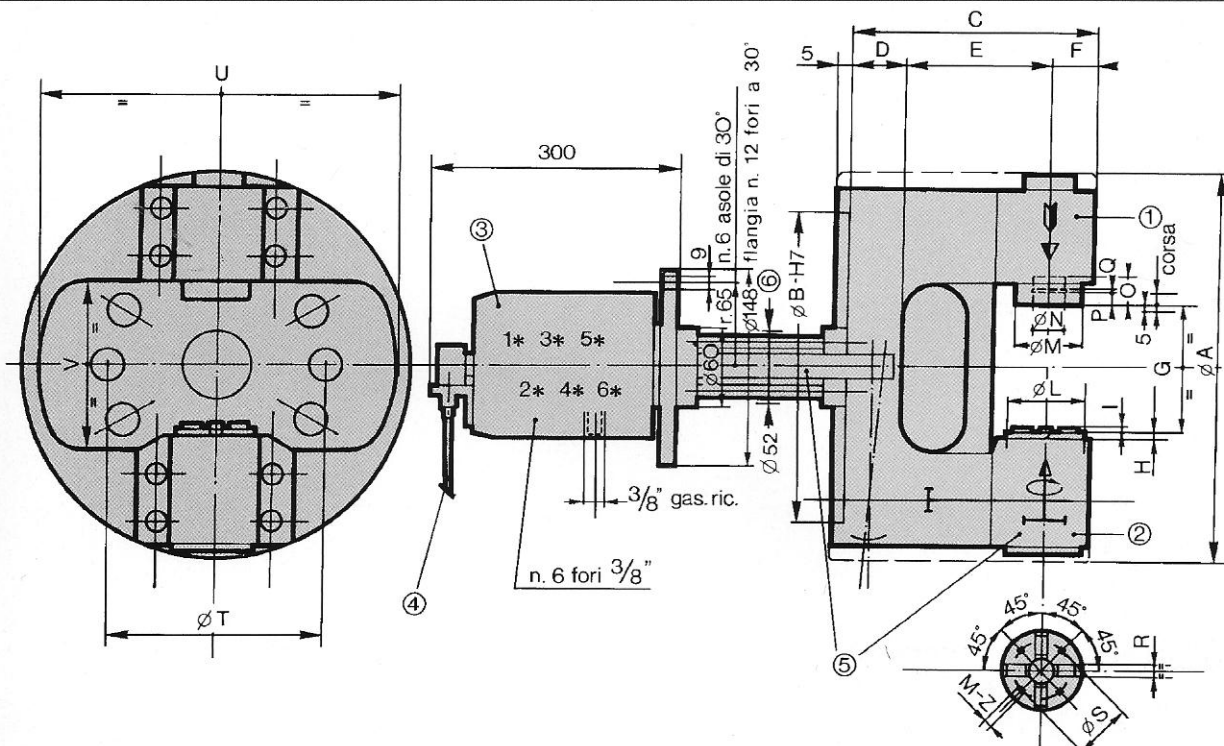
For the check of the 4 angular positions the rotating head of the chuck is equipped with an inner cam device with one transmission coaxial rod to the tube nest through the manifold that operates on 4 proximity microswitches.

Tipo Type Type	IDRO-P	IDRO-P	IDRO-P
	3,5	4	5
ØA	350	400	500
ØB - H 7	330	380	480
C	250	250	340
D	52	52	52
E	150	150	240
F	48	48	48
G	90	140	240
H	8	8	8
I	5	5	5
Ø L	90	90	90
Ø m	60	60	60
Ø N	30	30	30
O	25	25	25
P	10	10	10
Q	3,5	3,5	3,5
R	12	12	12
Ø S	45	45	45
Ø T	172-235	235	235
U	300	350	450
V	130	180	280
M-Z	8x1,25	8x1,25	8x1,25
Corsa Course Stroke	25	25	25
Max. forza blocc. Kg. Force max. de blocage Kgs. Max. clamping force Kgs.	3.200	3.200	3.200
Attacco ASA-DIN Connexion Spindle mounting	8-11	11	11
CAM-LOCK	8-11	11	11
PD <sup>2</sup>	6,12	12,6	28,6
N. giri max. Max. T.P.M. Max. R.P.M.	2.000	1.800	1.500
Peso Kg. Poids Kgs. Weight	98	140	180





- 1  
Testa di bloccaggio  
Tête de blocage  
Clamping head
- 2  
Testa rotante  
Tête tournante  
Rotating head
- 3  
Distributore rotante  
Distributeur tournant  
Rotating distributor
- 4  
Micro di prossimità  
Micro de proximité  
Proximity microswitch
- 5  
Camma rotante per comando micro e asta di rinvio coassiale  
Came tournante pour commande micro et tige de renvoi coaxiale  
Rotating cam for control of the microswitch and transmission coaxial rod
- 6  
Diam. minimo foro mandrino macchina  
Dia. minimum trou broche machine  
Minimum dia. spindle hole



Pressione di lavoro max. 70 Atm.  
Precisione di concentricità  $\pm 0.05$   
Precisione divisione  $\pm 10'' \div 30''$

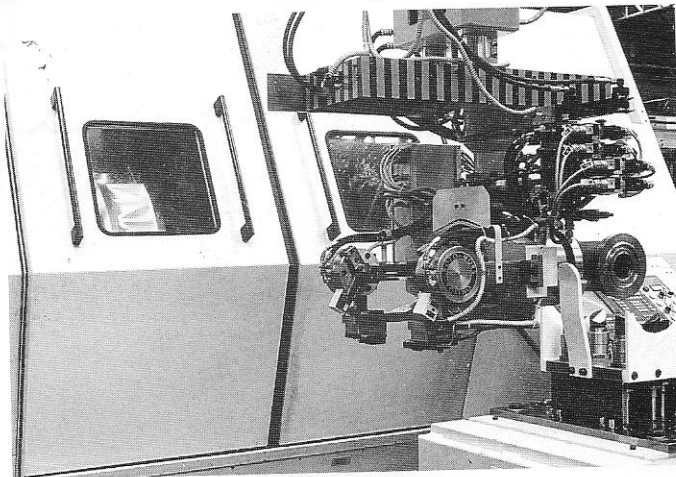
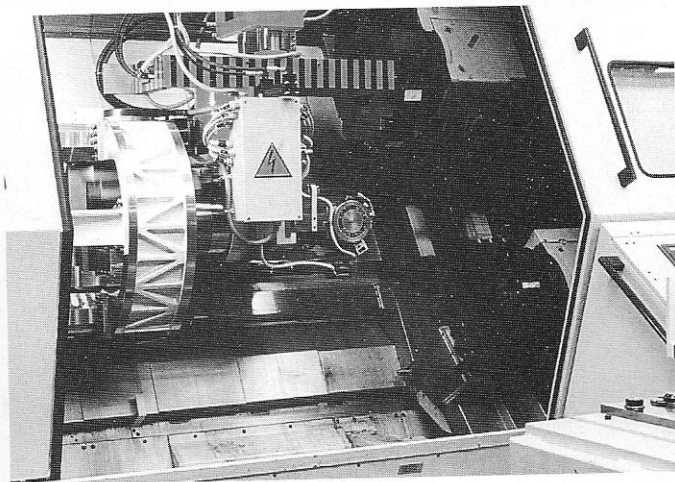
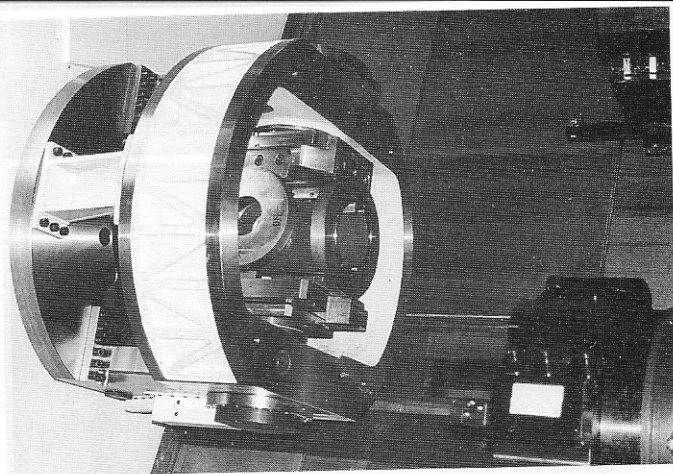
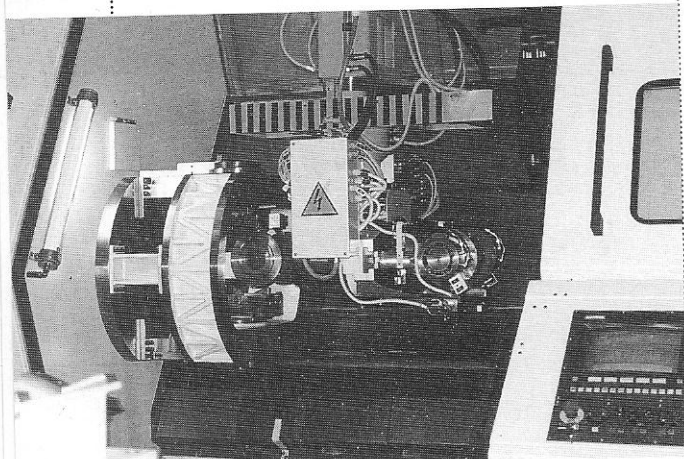
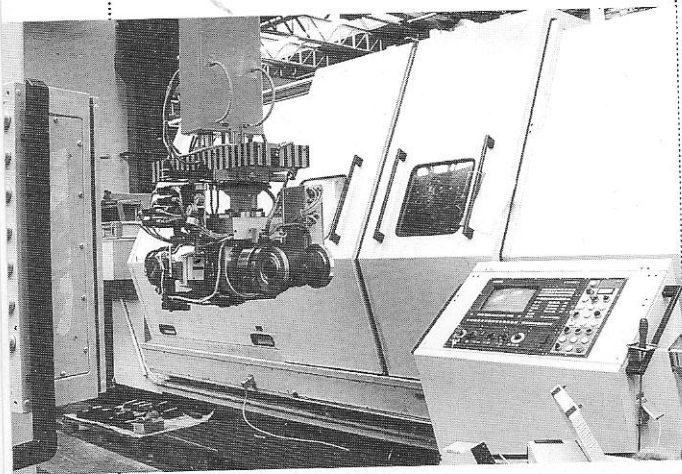
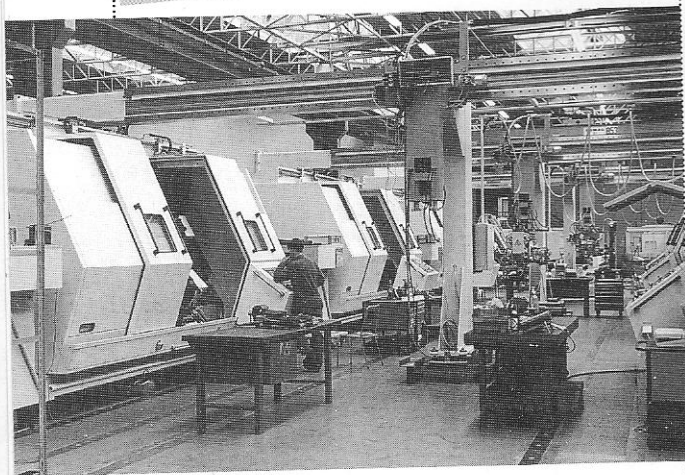
Pression d'usinage 70 bar max  
Précision de concentricité  $\pm 0.05$   
Précision d'indexation  $\pm 10'' \div 30''$

Machining pressure 70 bar max.  
Concentricity accuracy  $\pm 0.05$   
Index accuracy  $\pm 10'' \div 30''$

# IDRO-P-DAG

LINEA FLESSIBILE DI 8 TORNI ORIZZONTALI CON ATTREZZI IDRO-POSIZIONATORI AUTOMATICI TIPO IDRO-P-DAG 81 Ø 840 MM con 4 posizioni a 90° più 2 a 5° e disassamento a livello griffe, per presa corpi valvole ND 50 ÷ 80 GHOST e API, asservita con 4 manipolatori automatici Rotomors a 2 posizioni a 180° per carico-scarico corpi con trasferimento a portale.

## VOEST-ALPINE STEINEL-AUSTRIA



### LIGNE FLESSIBLE DE 8 TOURS HORIZONTAUX MANDRINS INDEXABLES AUTOMATIQUES MODELE IDRO-P-DAG 81 Ø 840 MM

à 4 positions à 90° plus 2 positions à 5° et désaxement au niveau des mors, pour prise corps de vannes ND 50 ÷ 80 GHOST et API, asservie par 4 manipulateurs automatiques Rotomors à 2 positions é 180° pour chargement-déchargement corps avec transfert à portique.

### FLEXIBLE LINE OF 8 PARALLEL LATHES EQUIPPED WITH AUTOMATIC INDEXING CHUCKS TYPE IDRO-P-DAG 81 Ø 840 MM

with 4 positions at 90° plus 2 positions at 5° and off-set at jaws level, for clamping of valve bodies ND 50 ÷ 80 GHOST and API, interlocked by 4 Rotomors automatic handling transport portals with 2 positions at 180° for bodies loading-unloading.



# IDRO-P-A-R

## ATTREZZO IDRO-POSIZIONATORE AUTOMATICO TIPO IDRO-P-A-R Ø 730 MM

con anello ribaltabile su 2 posizioni a 180°, a 2+2 griffe autocentranti e collettore a 6 mandate idrauliche, per presa manicotti da 5" 1-2 a 16" per la lavorazione degli assi contrapposti.

## MANDRIN INDEXABLE AUTOMATIQUE MODELE IDRO-P-A-R Ø 730 MM

avec anneau basculant sur 2 positions à 180°, à 2+2 mors concentrique et distributeur a 6 refoulements hydrauliques, pour prise de manchons de 5" 1-2 à 16" pour l'usinage des axes opposés.

## AUTOMATIC INDEXING CHUCK TYPE IDRO-P-A-R Ø 730 MM with turnover

ring on 2 positions at 180°, with 2+2 self-centering jaws and distributor with 6 hydraulic ports, for clamping of couplings from 5" 1/2 up 16" to machine opposed axis.

**PETROTUB-ROMANIA**



**ATTREZZO IDROPOSIZIONATORE IDRO-P-DA  
171 Ø 1950 MM**

Per la presa di **sfere** per valvole fino a 24"; predisposto con una **pinza pensile** a comando pneumatico per **carico orientato** nell'attrezzo e scarico delle sfere.

**MANDRIN HYDRO-INDEXABLE IDRO-P-DA  
171 Ø 1950 MM**

Pour la prise **sphères** pour vannes jusqu'à 24", prédisposé avec une **pince suspendue** à commande pneumatique pour **chargement orienté** dans le mandrin et **déchargements** des sphères.

**INDEXING CHUCK IDRO-P-DA 171 Ø 1950 MM**

For clamping of **balls** for valves up to 24" predisposed with one **pendant gripper** with pneumatic control for **positioned load** in the chuck and **unload** of the balls.

**GROVE-ITALIA**

**CENTRALE ELETTRO-IDRAULICA AUTONOMA  
CON PULSANTIERA, PLC E COMANDI ELET-  
TRICI**

per controllo attrezzo idro-divisore **IDRO-P 101 Ø 1140 mm**, non collegato ai comandi del tornio.

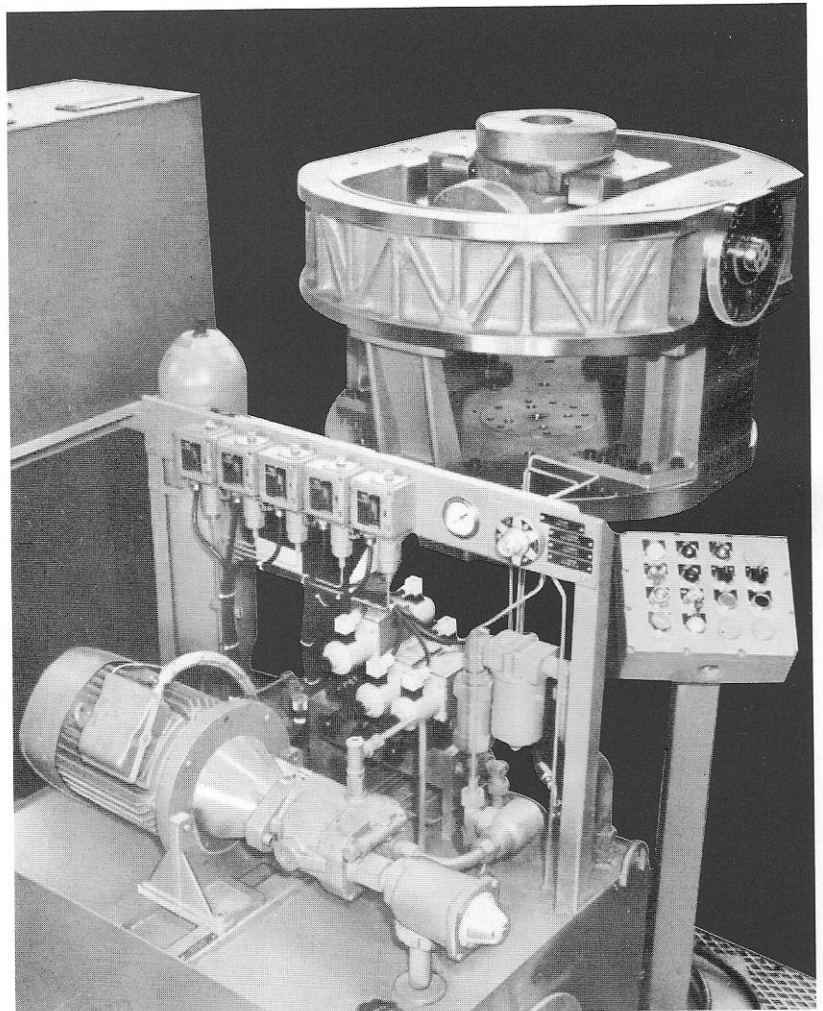
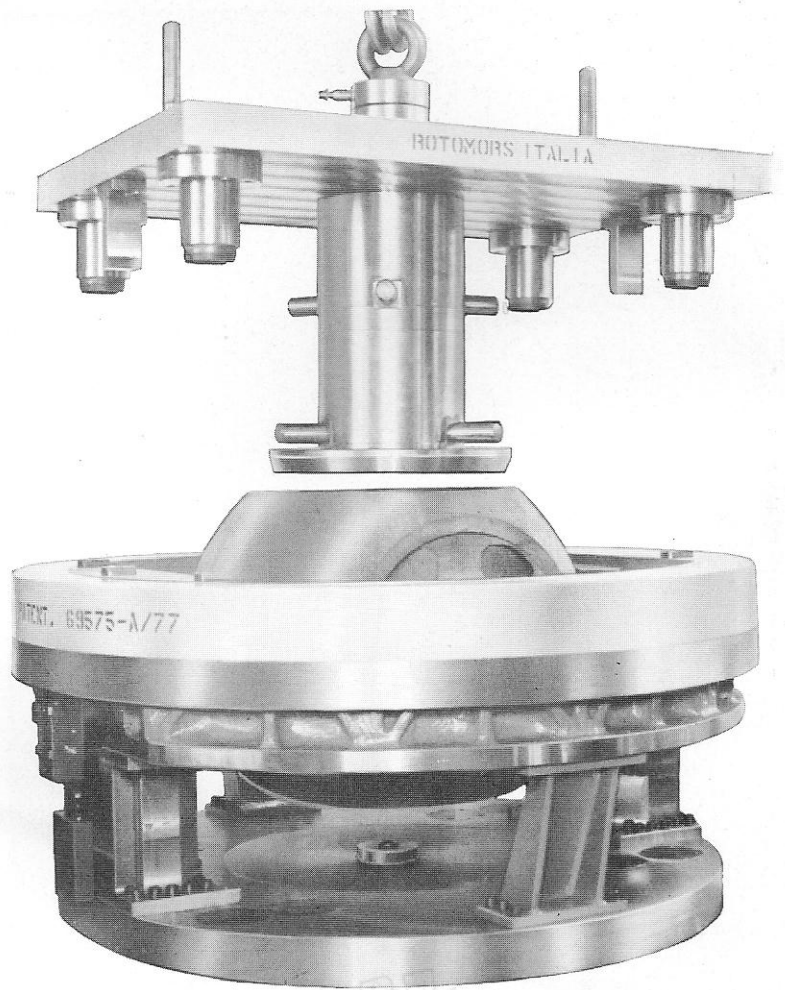
**CENTRALE ELECTRO-HYDRAULIQUE AUTO-  
NOME AVEC PUPITRE, PLC ET COMMANDES  
ELECTRIQUES**

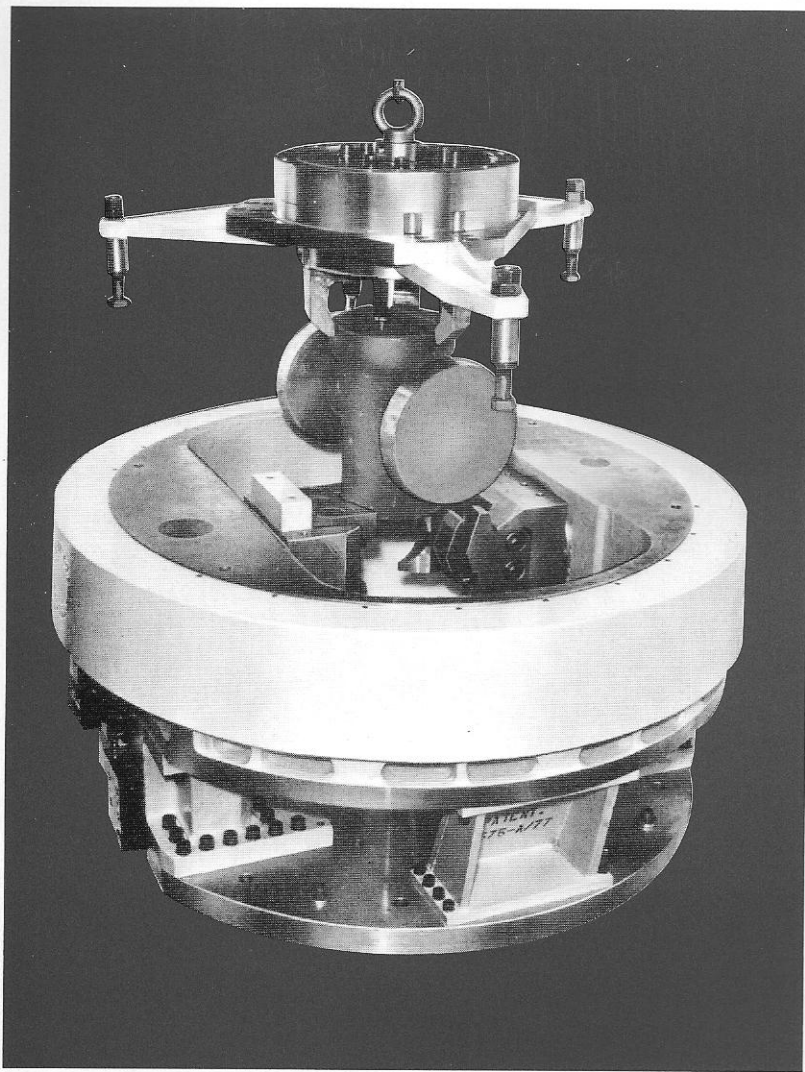
pour contrôle mandrin hydro-indexable **IDRO-P 101  
Ø 1140 mm** non raccordé aux commandes du tour.

**ELECTRO-HYDRAULIC SELF-CONTAINED UNIT  
WITH PUSH-BUTTON PANEL, PLC AND ELEC-  
TRICAL ACTUATORS**

to control the indexing chuck **IDRO-P 101 Ø 1140mm** not connected to the lathe's controls.

**FMC TEXAS-USA**





**ATTREZZO IDRO-POSIZIONATORE IDRO-P  
146 Ø 1680 MM**

per presa corpi valvole, predisposto con autocentrante pensile a comando pneumatico per carico-scarico e precentraggio corpi con appoggio oscillante.

**MANDRIN A INDEXATION IDRO-P 146  
Ø 1680 MM**

pour la prise de corps vannes, équipé d'un mandrin pendentif à commande pneumatique pour chargement-déchargement et précentrage des corps avec appui basculant.

**IDRO-P 146 Ø 1680 MM INDEXING CHUCK**

for valve bodies clamping with air control pendant chuck for parts load-unload and precentering with oscillating support.

**CAMERON-FRANCIA**

**ATTREZZO IDRO-POSIZIONATORE TIPO IDRO-  
P-DA 171 Ø 1950 MM**

a 4 posizioni a 90° più 2 a 4°17', con collettore a 11 mandate idrauliche, per corpi valvole fino a 24" con seggi disassati.

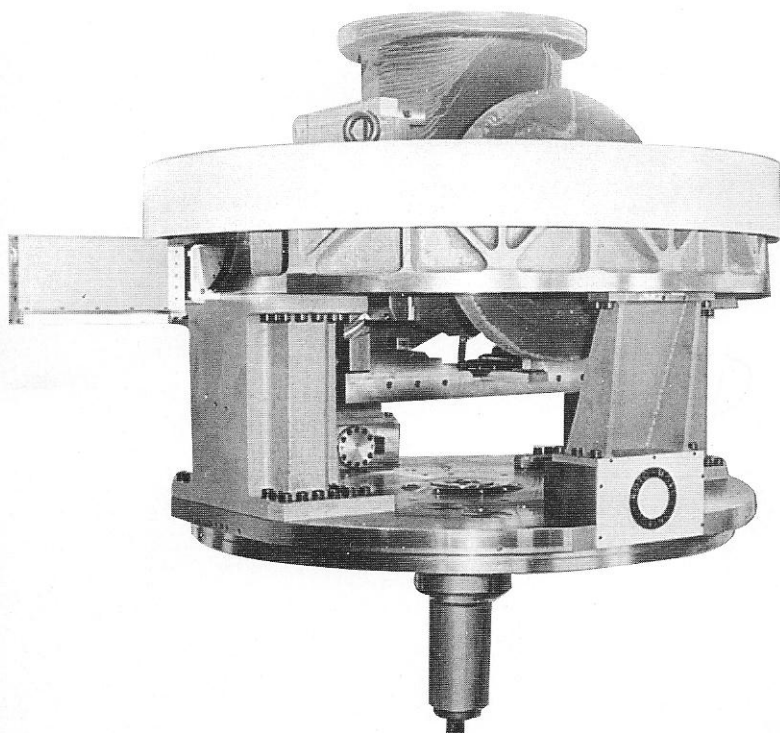
**MANDRIN INDEXABLE MODELE IDRO-P-DA  
171 Ø 1950 MM**

à 4 positions à 90° plus 2 positions à 4°17', équipé avec distributeur à 11 refoulements hydrauliques, pour prise de corps de vannes jusqu' à 24" avec sièges désaxés.

**INDEXING CHUCK TYPE IDRO-P-DA 171  
Ø 1950 MM**

with 4 positions at 90° plus 2 positions at 4°17', provided of distributor with 11 hydraulic ports for clamping of valve bodies up to 24" with off-set housings.

**FIRSA-ITALIA**





### ATTREZZO IDRO-POSIZIONATORE

#### IDRO-P-DA 166 Ø 1870 MM

con disassamento automatico per presa corpi valvole con seggi fuori centro. Piastra di base con bloccaggi idraulici automatici per piastra mobile porta attrezzo.

### MANDRIN A INDEXATION

#### IDRO-P-DA 166 Ø 1870 MM

avec desaxement automatique pour la prise de corps vannes avec sièges hors centre. Plateau de base avec blocages hydrauliques automatiques pour plateau mobile porte-mandrin.

### IDRO-P-DA 166 Ø 1870 MM INDEXING CHUCK

with automatic shifting for valve bodies clamping with shifted seats. Base plate with automatic hydraulic stops for chuck holding movable base plate.

### ATTREZZO IDRO-POSIZIONATORE

#### TIPO IDRO-P-91 Ø 1035 MM

Per presa corpi valvola fino a 10"/150 predisposto con attrezzo pensile a comando pneumatico per carico e scarico in orizzontale e precentraggio corpo su guide interne dei seggi.

### MANDRIN HYDRO-INDEXABLE

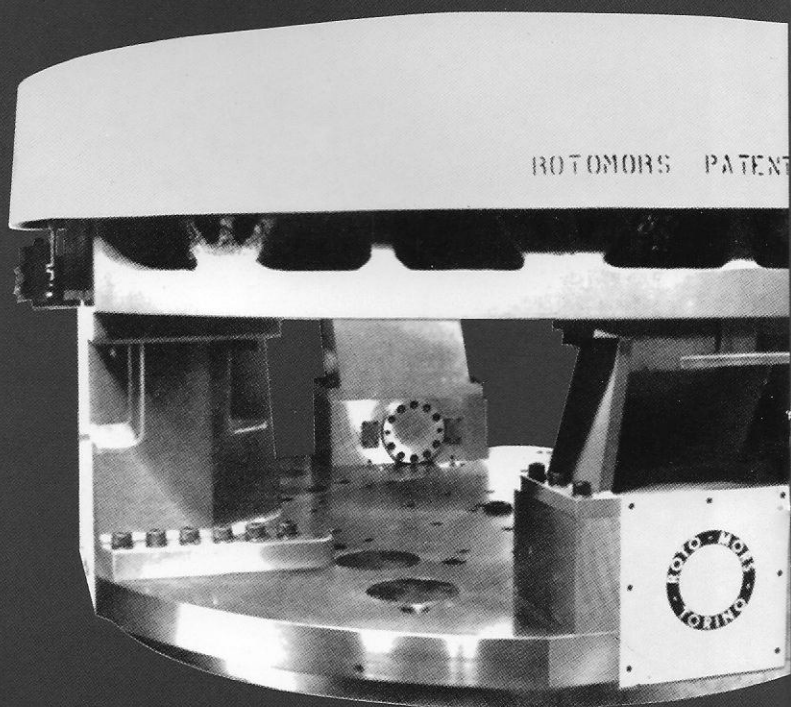
#### TYPE IDRO-P-91 Ø 1035 MM

Pour prise corps vanne jusqu'à 10"/150 predisposé avec outil suspendu à commande pneumatique pour chargement et déchargement en horizontal et précentrage corps sur glissières intérieures des sièges.

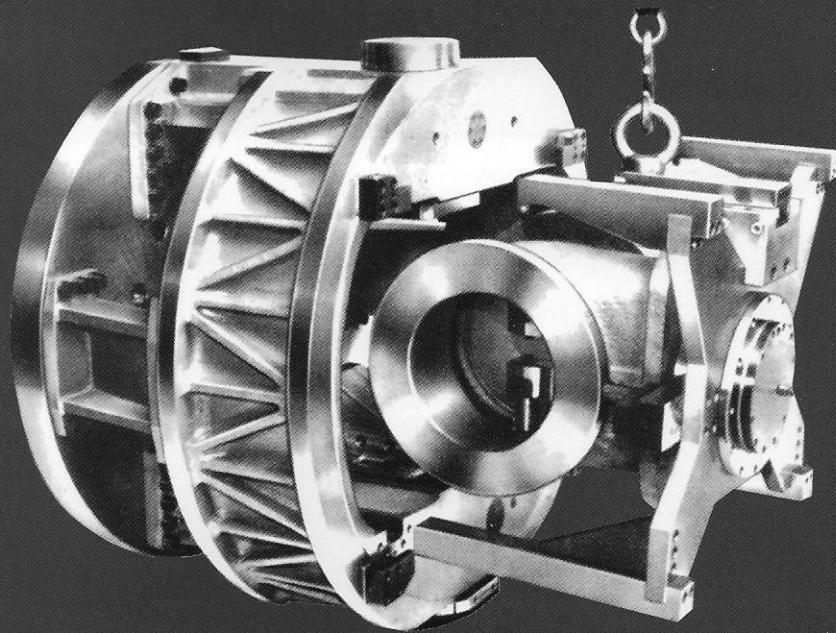
### INDEXING CHUCK TYPE

#### IDRO-P-91 Ø 1035 MM

For clamping of valve bodies up to 10"/150 predisposed with pendant fixture, pneumatically controlled for load and unload in horizontal and precentering of the body on the inner guides of the seats.



**WAGI INT. - ITALIA**



**VALFISA - SPAGNA**



**ROTOMORS**

**ROTOMORS S.p.A.**

10095 GRUGLIASCO - TORINO (Italia)

Via San Paolo, 62

Tel. (+39) 011.78.57.57 r.a. 011.780.29.21

Fax (+39) 011.78.92.38

e-mail: [info@rotomors.com](mailto:info@rotomors.com)

web site: [www.rotomors.com](http://www.rotomors.com)

**ROTOMORS FRANCE S.A.**

Immeuble «PYRAMIDE»

206, rue de Gerland • 69007 LYON

Tel. (+33) 478.69.26.87

Télécopie (+33) 478.69.26.97

e-mail: [rotomors@wanadoo.fr](mailto:rotomors@wanadoo.fr)

**ROTOMORS DEUTSCHLAND GmbH**

Waldweg 10 • D-35083 WETTER (Marburg)

Telefon (+49) 6423/9269-58

Fax (+49) 6423/9269-59

e-mail: [info@rotomors.de](mailto:info@rotomors.de)