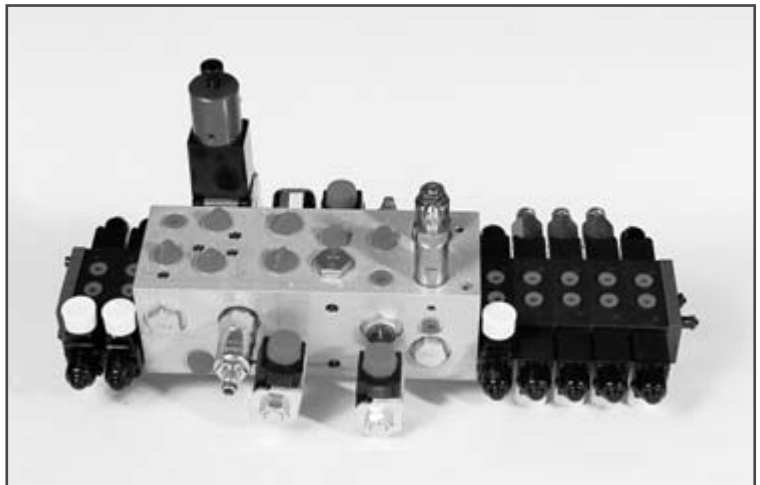
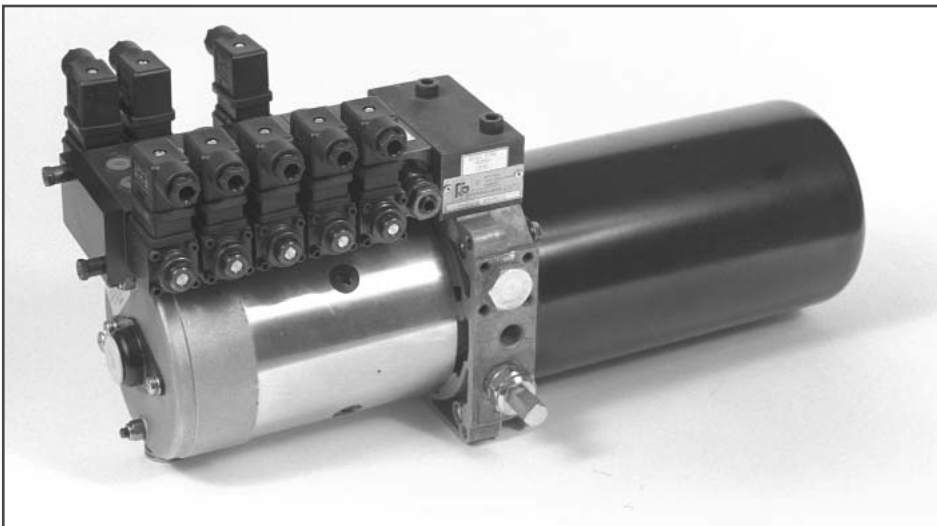
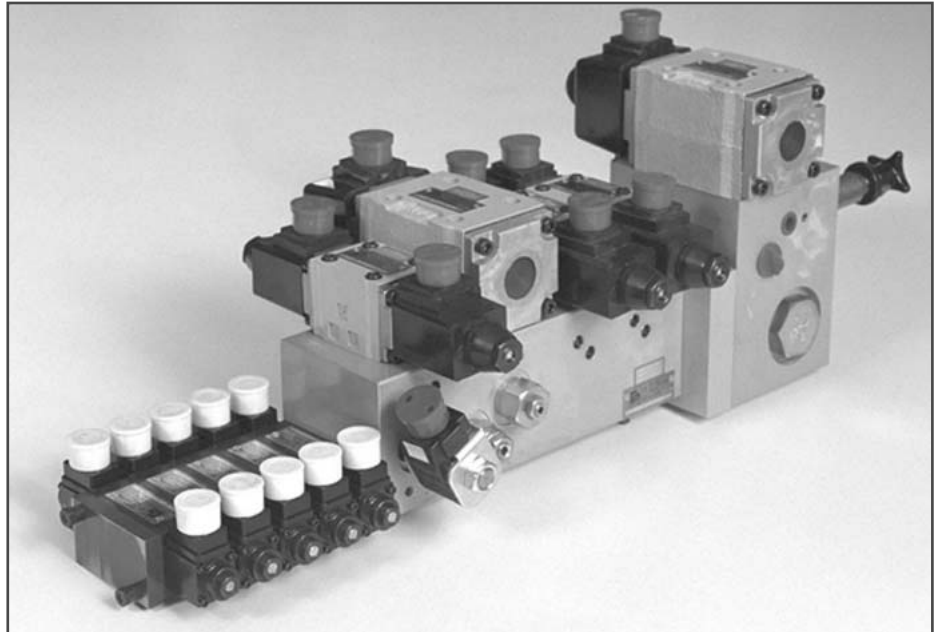




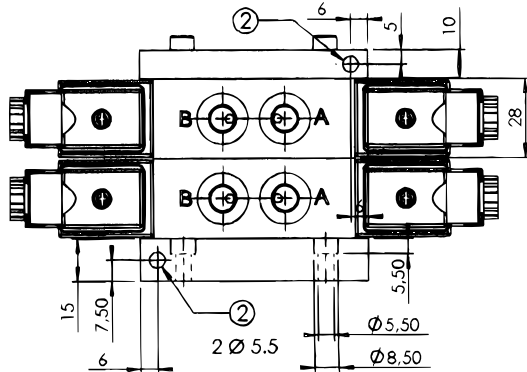
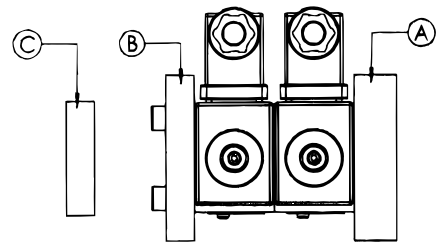
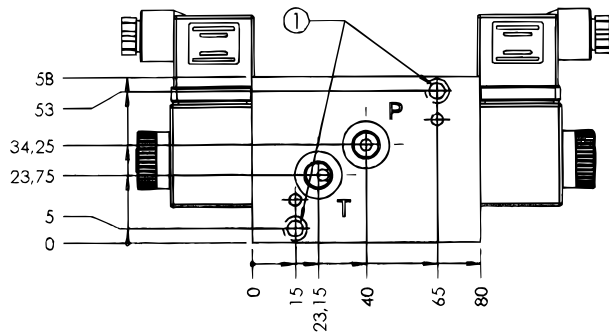
|       |   |
|-------|---|
| Micro | APPLICATIONS DES MICRODISTRIBUTEURS               |
| Micro | APPLICATIONS OF MICRO DIRECTIONAL VALVES          |
| Mikro | ANWENDUNGSBEISPIELE MIT MIKROWEGESCHIEBERVENTILEN |



Montage des blocs micros

Micro blocs assembly

Montage von Mikroblöcken



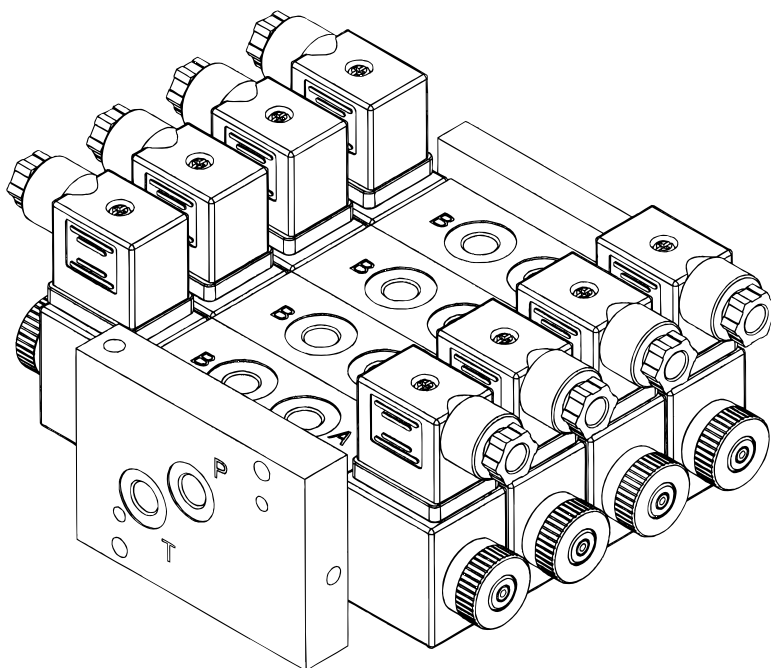
|                |                   |
|----------------|-------------------|
| Orifice PTAB   | G1/8" cylidrique  |
| Ports PTAB     | G1/8" cylindrical |
| Anschluss PTAB | G1/8" zylindrisch |

| Repère<br>Mark<br>Zeichen | Libellé<br>Item<br>Inhalt  | Code    |
|---------------------------|--|---------|
| A                         | Plaque de raccordement<br>Connector plate<br>Anschlussplatte   | 1156300 |
| B                         | Plaque de fermeture<br>End plate<br>Abschlussplatte  | 1490100 |
| C                         | Plaque de fermeture économique<br>Economy end plate<br>Sparsame Abschlussplatte                              | 1242500 |
| 1                         | 2 trous pour fixation verticale<br>2 holes for vertical mounting<br>2 Löcher für vertikale Befestigung       |         |
| 2                         | 2 trous pour fixation horizontale<br>2 holes for horizontal mounting<br>2 Löcher für horizontale Befestigung |         |

Vis d'assemblage

Assembly bolts

Zusammenstellungsschrauben



| Vis d'assemblage<br>Assembly bolts<br>Zusammenstellungsschrauben |         |
|--|---------|
| Nombre de modules<br>Number of valves<br>Modulanzahl             | Code    |
| 1  | 1490400 |
| 2  | 1490700 |
| 3  | 1490800 |
| 4  | 1490900 |
| 5  | 1491000 |
| 6  | 1278300 |
| 7  | 1278200 |
| Couple de serrage<br>Torque wrench setting<br>Anzugsdrehmoment   |         |
|  | 7.0 Nm  |



|                                |   |
|--------------------------------|---|
| Version<br>Model<br>Ausführung | Référence<br>Part number<br>Bestellnummer |
|--------------------------------|---|

|                                     |     |     |    |   |    |   |   |
|-------------------------------------|-----|-----|----|---|----|---|---|
| Flasquable - Stackable - Flanschbar | HDE | 3DF | ** | a | ** | N | b |
| En ligne - In line - Rohranschluss  | HDE | 3DL | ** | a | ** | N | b |

|  |  |
|--|--|
| 4/3 centrage ressort □<br>4/3 spring centering □<br>4/3 Federzentrierung | 4/2 retour ressort □<br>4/2 spring return □<br>4/2 Federrückstellung |
|  |  |
| 1A   | 4A   |
| 1B   | 4B   |
| 1C   | 4C   |
| 1E   | 4E   |
| 1F   | 4F   |
| 1G   | 4G   |
| 1H   | 4H   |
| 1J   | 4J   |
|  | 3A   |

|   |    |    |
|---|----|----|
| Tension d'alimentation<br>Supply voltage<br>Versorgungsspannung |    |    |
| 48V 50Hz  | cr | A4 |
| 110V 50Hz/115V 60Hz   | cr | A5 |
| 220V 50Hz/230V 60Hz   | cr | A6 |
| 12V CC/DC =   |    | C1 |
| 24V CC/DC =   |    | C2 |

cr : muni de connecteur-redresseur  
cr : connector with rectifier  
cr : Anschluss mit Gleichrichter

|   |   |
|---|---|
| a | <b>Matière joint<br/>Seal materials<br/>Dichtungswerkstoffe</b> |
| H | Nitrile (standard)  |
| V | Viton   |

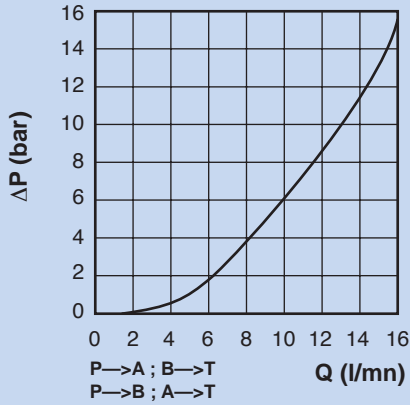
|                            |        |
|----------------------------|--------|
| HDE 3DF...                 |        |
|                            |        |
| HDE 3DL...                 |        |
|                            |        |
| Poids<br>Weight<br>Gewicht | 0,8 kg |
|                            | 0,7 kg |

|   |  |
|---|--|
| b | <b>Connecteur électrique<br/>Electrical connector<br/>Elektroanschluss</b> |
|   | Connecteur standard<br>Standard connector<br>Standardanschluss             |
| 0 | Sans<br>Without<br>Ohne  |

sur demande  
on request  
auf Anfrage

**Caractéristiques Performance Kennlinien**

**Perte de charge**  
Viscosité 30 cst

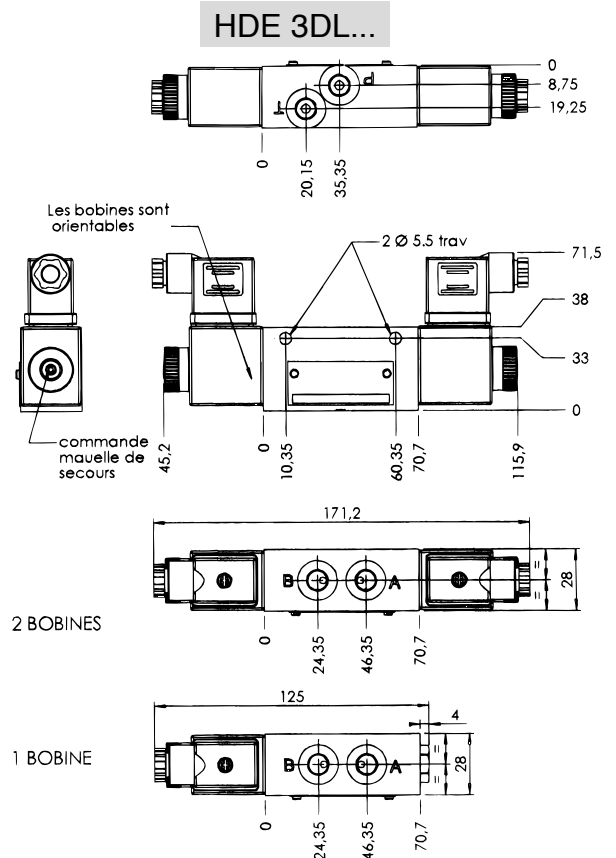
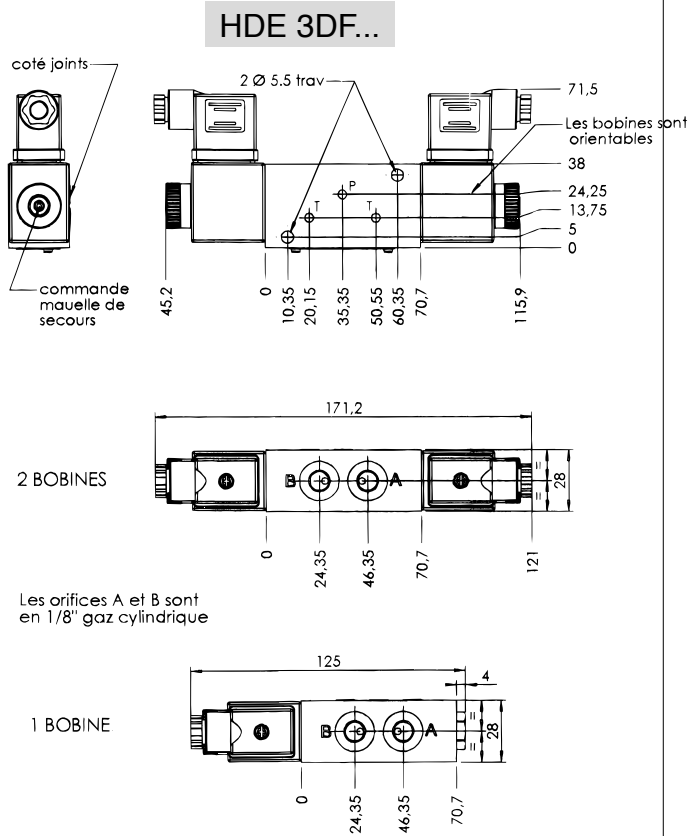


|  |                         |
|--|-------------------------|
| Orifice/Port/Anschluss   | 1/8" Gaz<br>Cylindrique |
| Passage/Diametre/Durchmesser   | 3 mm                    |
| P max  | 200 bar                 |
| Q max  | 10 l/m                  |
| Puissance/Power/Leistung   | 25 W                    |
| Fuite/Leakage/Leckage  | 15 ml/mn                |
| $\Delta p$ ligne-P par distributeur (10 l/mn)<br>P-line $\Delta p$ per directional valve<br>$\Delta p$ in P-Kanal pro Ventil (10 l/mn) | 0.4 bar<br>30 cSt       |

**Pièces de rechange Spare parts Ersatzteile**

| Pochette pour 5 valves/Kit for 5 valves/Satz für 5 Ventile :               | Nbr | Code    |
|--|-----|---------|
| - Joints plan de pose/Interface seals/Dichtungssatz für Lochbild           | 15  | 3166900 |
| - Ressorts/Springs/Federn  | 10  |         |
| - Joints de l'électro-aimant/Solenoid seals/Dichtungen für Electromagnete  | 10  |         |
| Joints plan de pose/Interface seals/Dichtungssatz für Lochbild (10 valves) | 30  | 1498400 |

**Encombrement Overall dimensions Abmessung**



# HDNH

**DISTRIBUTEURS AVEC CLAPET A/R PILOTE INTEGRE**

**DIRECTIONAL VALVES WITH PILOTED CHECK VALVE**

**WEGESCHIEBERVENTILE MIT ENTPERRBAREM RÜCKSCHLAGVENTIL**

Micro  
Micro  
NG 3

|                                |   |
|--------------------------------|---|
| Version<br>Model<br>Ausführung | Référence<br>Part number<br>Bestellnummer |
|--------------------------------|---|

|                                     |      |     |    |   |    |   |   |
|-------------------------------------|------|-----|----|---|----|---|---|
| Flasquable - Stackable - Flanschbar | HDNH | 3DF | ** | a | ** | N | b |
| En ligne - In line - Rohranschluss  | HDNH | 3DL | ** | a | ** | N | b |

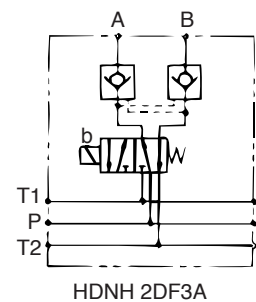
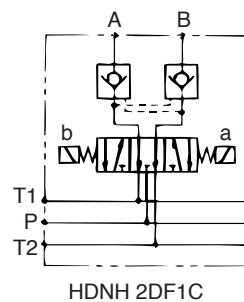
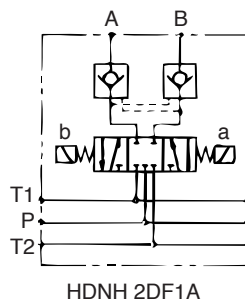
|  |  |
|--|--|
| 4/3 centrage ressort □<br>4/3 spring centering □<br>4/3 Federzentrierung □ | 4/2 retour ressort □<br>4/2 spring return □<br>4/2 Federrückstellung □ |
|  |  |
| 1A   | 4A   |
| 1B   | 4B   |
| 1C   | 4C   |
| 1E   | 4E   |
| 1F   | 4F   |
| 1G   | 4G   |
| 1H   | 4H   |
| 1J   | 4J   |
|  | 3A   |

|   |    |    |
|---|----|----|
| Tension d'alimentation<br>Supply voltage<br>Versorgungsspannung |    |    |
| 48V 50Hz  | cr | A4 |
| 110V 50Hz/115V 60Hz   | cr | A5 |
| 220V 50Hz/230V 60Hz   | cr | A6 |
| 12V CC/DC =   |    | C1 |
| 24V CC/DC =   |    | C2 |

cr : muni de connecteur-redresseur  
cr : connector with rectifier  
cr : Anschluss mit Gleichrichter

HDNH 3DF...

|                            |        |
|----------------------------|--------|
| Poids<br>Weight<br>Gewicht | 1.3 kg |
|----------------------------|--------|



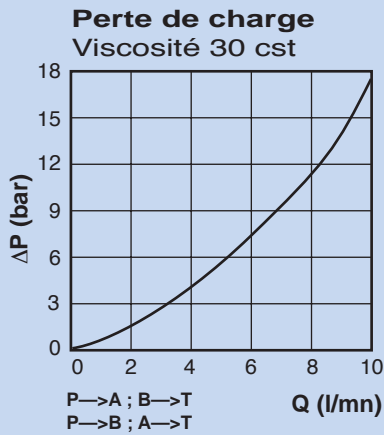
|          |   |          |  |
|----------|---|----------|--|
| <b>a</b> | <b>Matière joint</b><br><b>Seal materials</b><br><b>Dichtungswerkstoffe</b> | <b>b</b> | <b>Connecteur électrique</b><br><b>Electrical connector</b><br><b>Elektroanschluss</b> |
| H        | Nitrile (standard)  |          | Connecteur standard<br>Standard connector<br>Standardanschluss                         |
| V        | Viton   | 0        | Sans<br>Without<br>Ohne  |



RAULIQUE

BP 9 Thyez 74317 CLLSSES Cedex FRANCE Tél : +33 (0) 4 50 34 57 77 Fax : +33 (0) 4 50 34 04 20 info@tphdraulique.com

**Caractéristiques Performance Kennlinien**

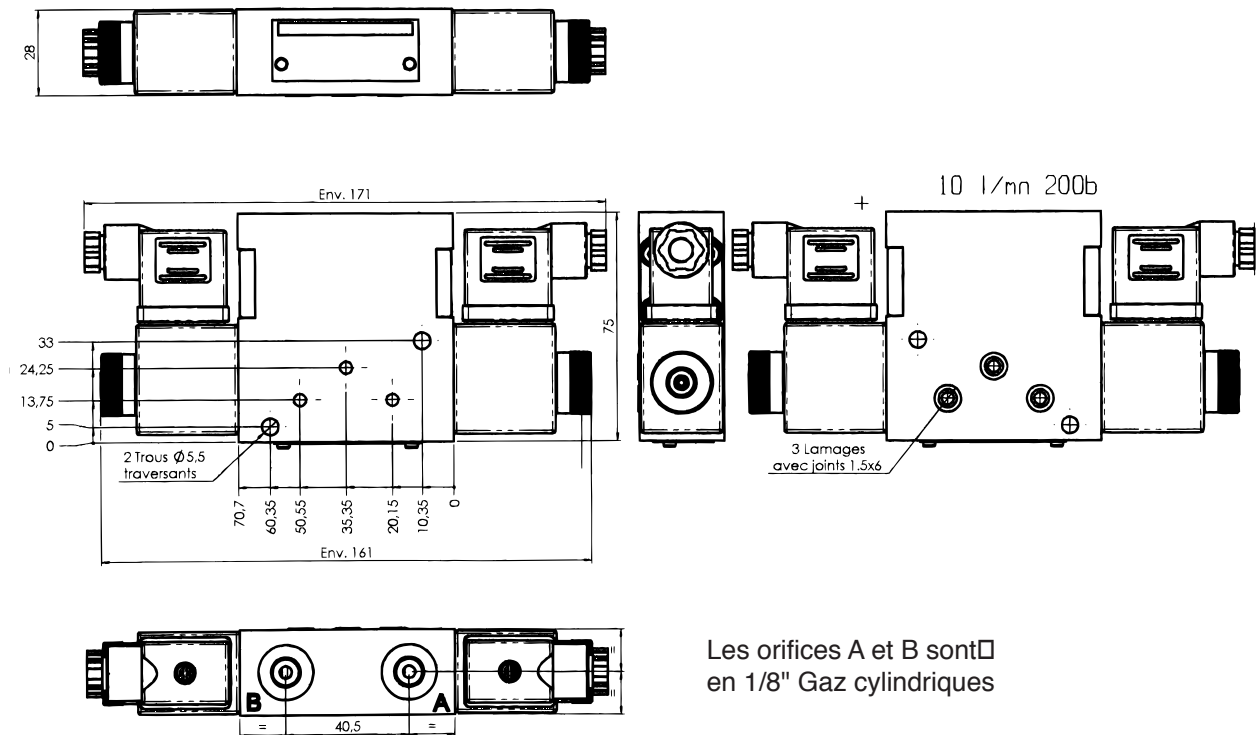


|  |                      |
|--|----------------------|
| Orifice/Port/Anschluss   | 1/8" Gaz Cylindrique |
| Passage/Diametre/Durchmesser   | 3 mm                 |
| P max  | 200 bar              |
| Q max  | 10 l/m               |
| Puissance/Power/Leistung   | 25 W                 |
| Fuite/Leakage/Leckage  | 15 ml/mn             |
| Δp ligne-P par distributeur (10 l/mn)<br>P-line Δp per directional valve<br>Δp in P-Kanal pro Ventil (10 l/mn) | 0.4 bar<br>30 cSt    |

**Pièces de rechange Spare parts Ersatzteile**

| Pochette pour 5 valves/Kit for 5 valves/Satz für 5 Ventile :               | Nbr | Code    |
|--|-----|---------|
| - Joints plan de pose/Interface seals/Dichtungssatz für Lochbild           | 15  | 3166900 |
| - Ressorts/Springs/Federn  | 10  |         |
| - Joints de l'électro-aimant/Solenoid seals/Dichtungen für Electromagnete  | 10  |         |
| Joints plan de pose/Interface seals/Dichtungssatz für Lochbild (10 valves) | 30  | 1498400 |

**Encombrement Overall dimensions Abmessung**

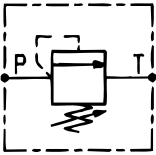


# HSP

ISO  
4401

## LIMITEURS DE PRESSION RELIEF VALVES DRUCKBEGRENZUNGSVENTILE

Micro  
Micro  
NG 3



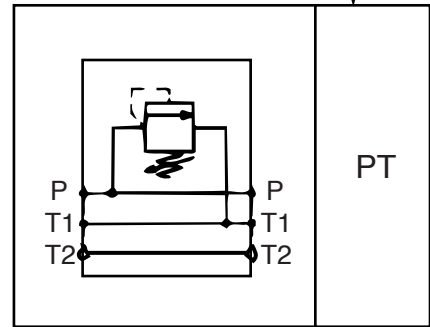
|                               |  |                |   |
|-------------------------------|--|----------------|---|
| Montage<br>Mounting<br>Einbau | Plage de pression<br>Pressurerange<br>Druckbereich | P max<br>Q max | Référence<br>Part number<br>Bestellnummer |
|-------------------------------|--|----------------|---|

|  |             |                    |     |     |    |   |    |   |
|--|-------------|--------------------|-----|-----|----|---|----|---|
| Flasquable<br>Stackable<br>Zwischenplatten | 5 - 200 bar | 200 bar<br>10 l/mn | HSP | 3DF | 20 | a | PT | b |
|--|-------------|--------------------|-----|-----|----|---|----|---|

|          |   |
|----------|---|
| <b>a</b> | <b>Matière joint<br/>Seal materials<br/>Dichtungswerkstoffe</b> |
| H        | Nitrile (standard)  |
| V        | Viton   |

■ sur demande  
on request  
auf Anfrage

|          |   |
|----------|---|
| <b>b</b> | <b>Réglage<br/>Adjustment<br/>Einstellung</b> |
| Z        | Vis<br>Screw<br>Schraube                      |



|                            |        |
|----------------------------|--------|
| HSP 3DF...                 |        |
|                            |        |
| Poids<br>Weight<br>Gewicht | 0.5 kg |





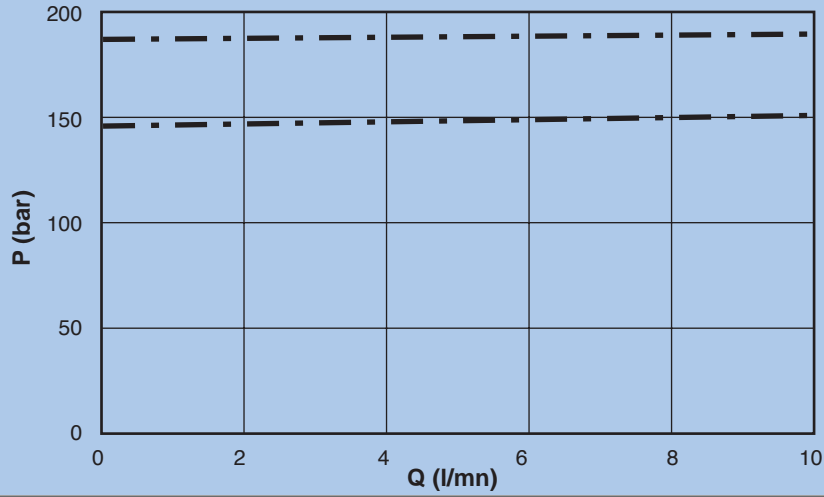
**Caractéristiques**

**Performance**

**Kennlinien**

**Courbes débit-pression**

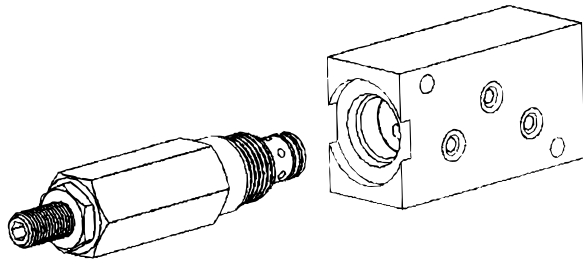
Viscosité 30 cst



**Pièces de rechange**

**Spare parts**

**Ersatzteile**

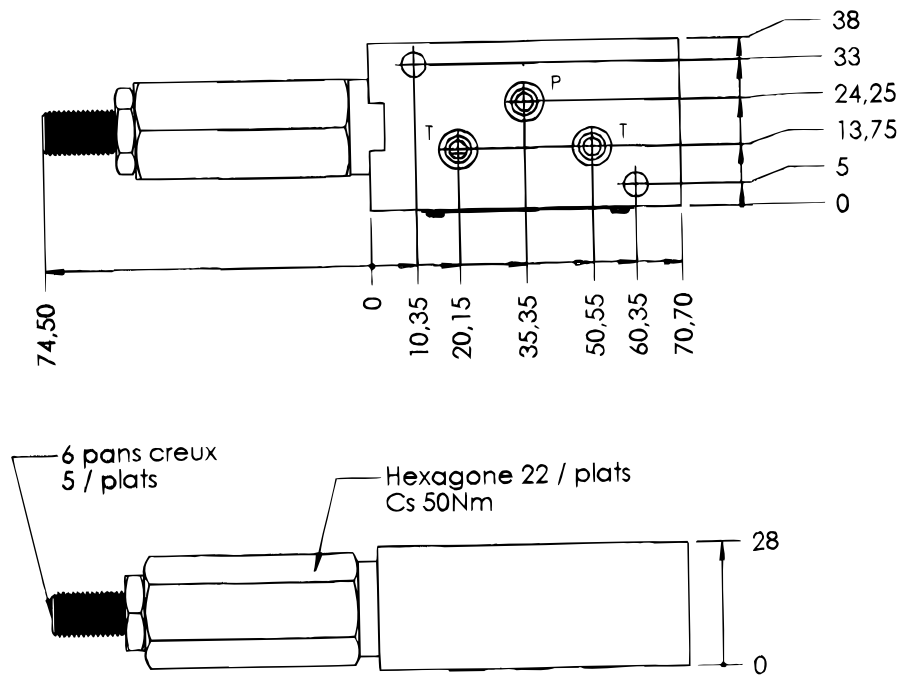


|   | Code     |
|---|----------|
| Pochette de joints (10 cartouches)<br>Seal kit (10 cartridges)<br>Dichtungssatz (10 Patronen) | SK30500N |
| Joints plan de pose (30 o-rings)<br>Interface seal kit (30 o-rings)<br>Lochbild (30 o-rings)  | 1498400  |
| Cartouches<br>Cartridges<br>Patronen  | A02B2HZN |

**Encombrement**

**Overall dimensions**

**Abmessung**



# HRP

## REDUCTEURS DE PRESSION PRESSURE REDUCING VALVES DRUCKREGELVENTILE

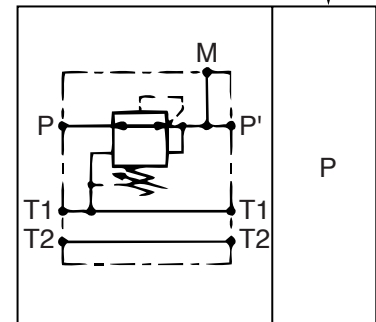
Micro  
Micro  
Mikro

|                               |  |                        |   |
|-------------------------------|--|------------------------|---|
| Montage<br>Mounting<br>Einbau | Plage de pression<br>Pressurerange<br>Druckbereich | $P_{max}$<br>$Q_{max}$ | Référence<br>Part number<br>Bestellnummer |
|-------------------------------|--|------------------------|---|

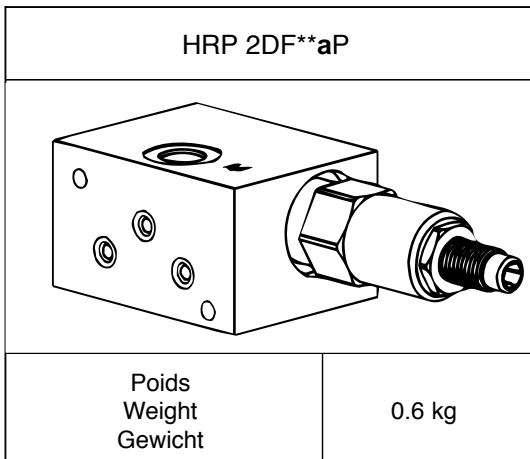
|  |              |                    |     |     |    |   |   |
|--|--------------|--------------------|-----|-----|----|---|---|
| Flasquable<br>Stackable<br>Zwischenplatten | 5 - 20 bar   | 200 bar<br>12 l/mn | HRP | 2DF | 02 | a | P |
|  | 7 - 40 bar   |                    | HRP | 2DF | 04 | a | P |
|  | 22 - 80 bar  |                    | HRP | 2DF | 08 | a | P |
|  | 35 - 150 bar |                    | HRP | 2DF | 15 | a | P |

|   |   |
|---|---|
| a | <b>Matière joint</b><br><b>Seal materials</b><br><b>Dichtungswerkstoffe</b> |
| H | Nitrile (standard)  |
| V | Viton   |

sur demande  
on request  
auf Anfrage

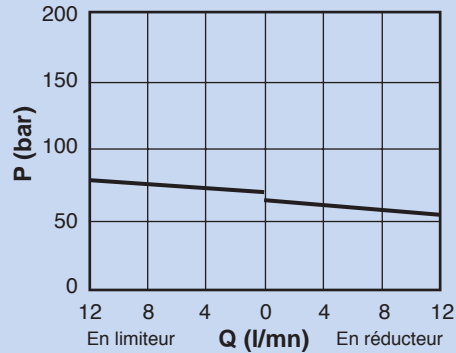


|                           |   |
|---------------------------|---|
| Modèle<br>Model<br>Modell | Avec limiteur de pression P'→T<br>Incorporating a pressure relief valve P'→T<br>Mit Druckbegrenzungsventil P'→T |
|---------------------------|---|



**Courbes de régulation  $P = f(Q)$**

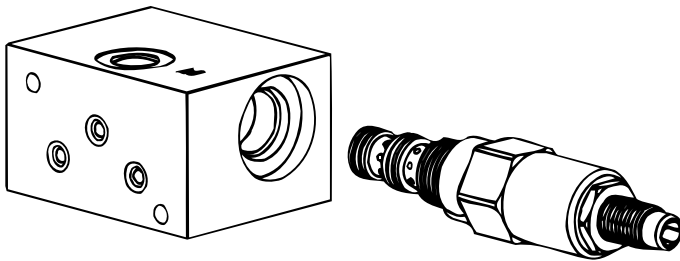
Viscosité 32 cst



Pièces de rechange

Spare parts

Ersatzteile

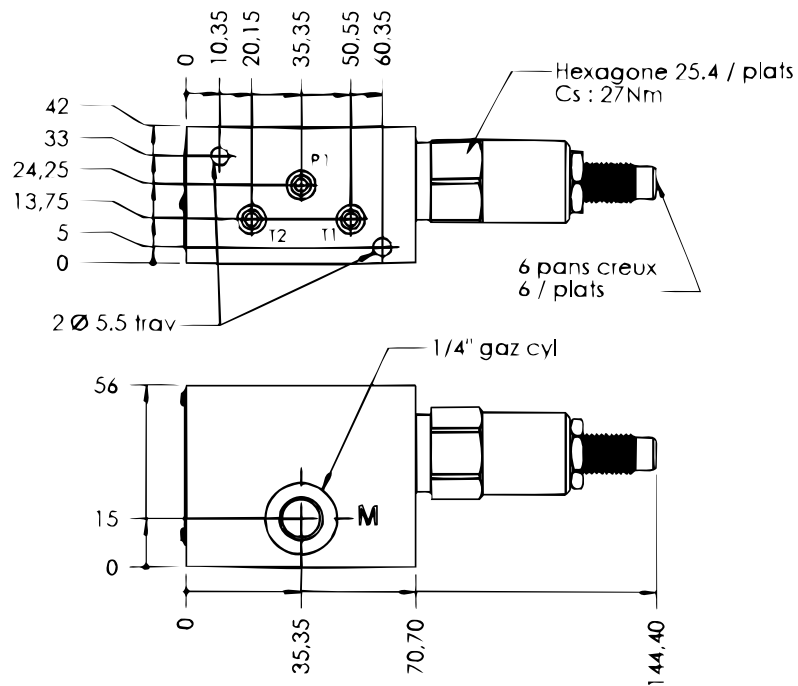


|   |    | Code            |
|---|----|-----------------|
| Pochette de joints (10 cartouches)<br>Seal kit (10 cartridges)<br>Dichtungssatz (10 Patronen) |    | SK3-3N-BM       |
| Joints plan de pose (30 o-rings)<br>Interface seal kit (30 o-rings)<br>Lochbild (30 o-rings)  |    | 1498400         |
| Cartouches  | 02 | PR08-32A-O-N-3  |
| Cartridges  | 04 | PR08-32A-O-N-6  |
| Patronen  | 08 | PR08-32A-O-N-12 |
|   | 15 | PR08-32A-O-N-22 |

Encombrement

Overall dimensions

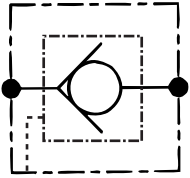
Abmessung



# HNH

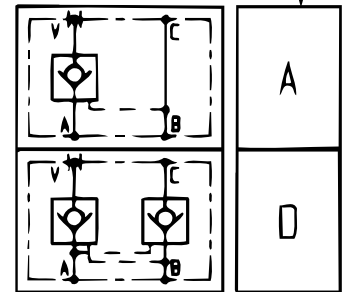
## CLAPETS ANTI-RETOUR PILOTES PILOTED CHECK VALVES ENTSPERRBARE RÜCKSCHLAGVENTILE

Micro  
Micro  
Mikro



|                               |  |                |   |
|-------------------------------|--|----------------|---|
| Montage<br>Mounting<br>Einbau | Rapport : <u>pression retenue</u><br>pression pilote<br>Ratio : <u>restrain pressure</u><br>pilot pressure<br>Verhältnis : <u>Haltdruck</u><br>Steuerdruck | P max<br>Q max | Référence<br>Part number<br>Bestellnummer |
|-------------------------------|--|----------------|---|

|   |       |   |         |     |     |   |   |
|---|-------|---|---------|-----|-----|---|---|
| En ligne (banjo)<br>In line (banjo)<br>Rohranschluss(banjo) | 4 : 1 | Action directe<br>Direct action<br>Direkte Aktion | 200 bar | HNH | 2DL | a | * |
|---|-------|---|---------|-----|-----|---|---|



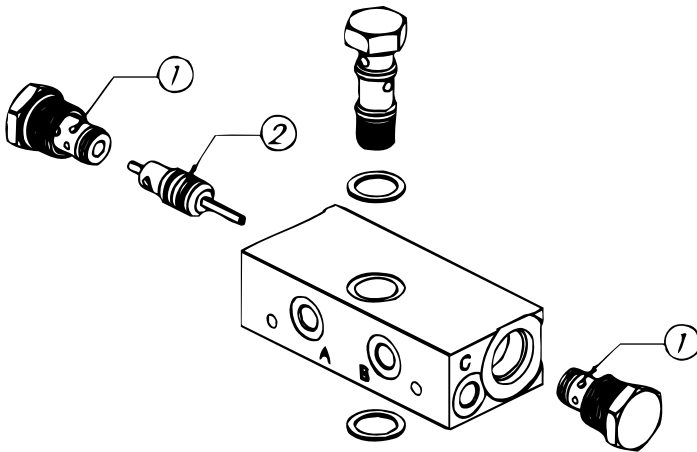
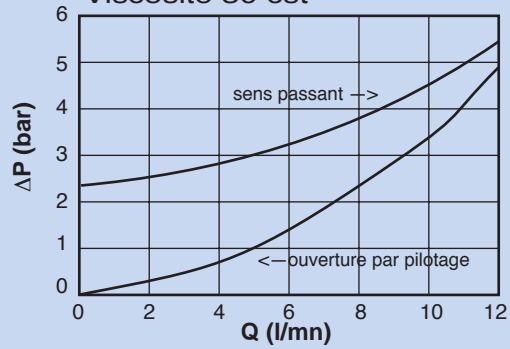
|   |   |
|---|---|
| a | <b>Matière joint</b><br><b>Seal materials</b><br><b>Dichtungswerkstoffe</b> |
| H | Nitrile (standard)  |
| V | Viton   |

■ sur demande  
on request  
auf Anfrage

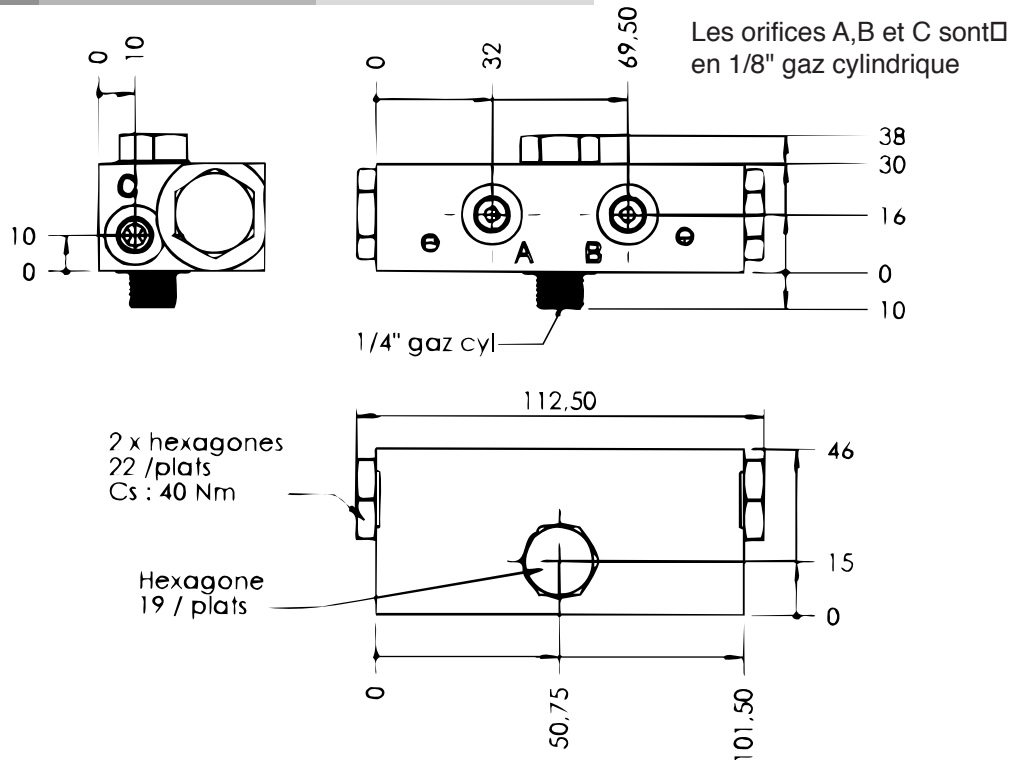
|                            |        |
|----------------------------|--------|
| HNH 2DL...                 |        |
|                            |        |
| Poids<br>Weight<br>Gewicht | 0.5 kg |



**Perte de charge**  
Viscosité 30 cst



| Repère<br>Mark<br>TRAD | Cartouche<br>Cartridge<br>Patronen | Pochette joints<br>Seal kit<br>Dichtungssatz |
|------------------------|------------------------------------|--|
| 1                      | D02B2-2.1N                         | SK30515N                                     |
| 2                      | PP12025                            |  |



|       |   |
|-------|---|
| Micro | APPLICATIONS DES MICRODISTRIBUTEURS               |
| Micro | APPLICATIONS OF MICRO DIRECTIONAL VALVES          |
| Mikro | ANWENDUNGSBEISPIELE MIT MIKROWEGESCHIEBERVENTILEN |

|  |  |
|--|--|
|  |  |
|  |  |
|  |  |
|  |  |

