# **HYDAP** INTERNATIONAL

## Compact Hydraulics Minivalves



## Content

Pressure valves	Symbol	Туре	Q <sub>max</sub> I/min)	P <sub>max</sub> (bar)	С	avity	Brochure no.
Pressure relief valve direct acting		DB06A-01	15	350	υ	FC06-2	5.140.0
		DB06C-01	20	350	U	FC06-2	5.141.0

Flow valves	Symbol	Туре	Q <sub>max</sub> (I/min)	P <sub>max</sub> (bar)	с	avity	Brochure no.
2-way flow control valve		SR06-01	15	350	U	FC06-2	5.142.0

Check valves	Symbol	Туре	Q <sub>max</sub> I/min)	P <sub>max</sub> (bar)	С	avity	Brochure no.
Check valve	<sup>2</sup> ₩01	RV06A-01	20	350	U	FC06-2	5.143.0
Check valve with integrated pressure relief	grated pressure	RV06B-01	15	350	U	FC06-3	5.144.0
		RV06C-01	20	350	U	FC06-3	5.145.0

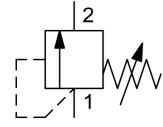
Directional poppet valves	Symbol	Туре	Q <sub>max</sub> (I/min)	P <sub>max</sub> (bar)	С	avity	Brochure no.
2/2-poppet valve normally closed		WS06Z-01	20	350	U	FC06-2	5.146.0
2/2-poppet valve normally open		WS06Y-01	20	350	U	FC06-2	5.147.0
2/2-poppet valve normally closed	2 ZR	WS06ZR-01 Part no. 2610333	20	350	U	FC06-2	cf
2/2-poppet valve normally open	2 YR	WS06YR-01 Part no. 2610394	20	350	U	FC06-2	cf

Directional spool valves	Symbol	Туре	Q <sub>max</sub> (I/min )	p <sub>max</sub> (bar)	c	avity	Brochure no.
2/2-spool valve, normally closed	w 1 w	WK06W-01	10	350	U	FC06-2	5.148.0
2/2-spool valve, normally open		WK06V-01	15	350	U	FC06-2	5.156.0
3/2-spool valve	C C	WK06C-01	10	350	U	FC06-3	5.149.0
4/2-spool valve		WK06Y-01	10	350	U	FC06-4	5.150.0
4/3-spool valve	S1 2 4 E S1 5 2 5 2	WK06E-01	11	350	U	FC06-4	5.151.0
4/3-spool valve	S1 3 1 S2	WK06G-01	7	350	U	FC06-4	5.152.0
4/3-spool valve	S1 2 4 H S2 3 1 S2	WK06H-01	9	350	U	FC06-4	5.153.0
4/3-spool valve		WK06J-01	11	350	U	FC06-4	5.154.0

Coils for Minivalves	Type (Part No.)	Nominal voltage	Electrical connection	Brochure No.
Plug Type G	2610160	12 VDC	Plug to EN 175301-803 Form B, DIN 43650B	5.155.0
	2610161	24 VDC		
	2610156	105 VDC	Plug for DC coils	
	2610159	205 VDC	Part No. 2600570	
*Plug with rectifier	2610156 + 2600582*	115 VAC	Plug with integrated rectifier for AC coils	
(see right side)	2610159 + 2600582*	230 VAC	Part No. 2600582	
Plug Type N	2610149	12 VDC	Doutoch plug, avial	5.155.0
	2610150	24 VDC	<ul> <li>Deutsch plug, axial</li> </ul>	
Plug Type L	2610151	12 VDC	Coil with 2 leadwires	5.155.0
	2610162	24 VDC	0,75mm², 450 mm long	

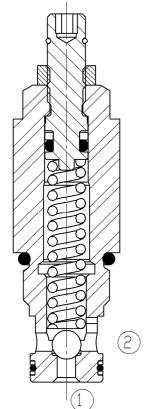
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#### SYMBOL



up to 15 l/min up to 350 bar

**FUNCTION** 



The Pressure relief valve DB06A is a direct acting, spring loaded ball valve. Its job is to limit the pressure in the system. The spring acts with a certain force on the ball and presses it on the valve seat. On the opposite side the system pressure works at port 1. If the hydraulic force is lower than the spring pressure the valve remains closed. Only if the force is higher, the valve opens and the flow will be let to port 2 (tank). If the system pressure is equal to the spring pressure the valve closes again.

Attention: Pressure at port 2 increases the opening pressure! If ports are

interchanged or the pressure adjustment is higher than the operating pressure, the function of the valve is invalid.

## Pressure Relief Valve Ball type, direct acting Cartridge-Minivalve – 350 bar DB06A-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extend service life
- Quick response
- Adjustable under full system pressure
- Adjustable across the entire pressure range
- Various pressure ranges up to 350 bar
- Foreseen for the maximal pressure protection of the system

#### **SPECIFICATIONS**

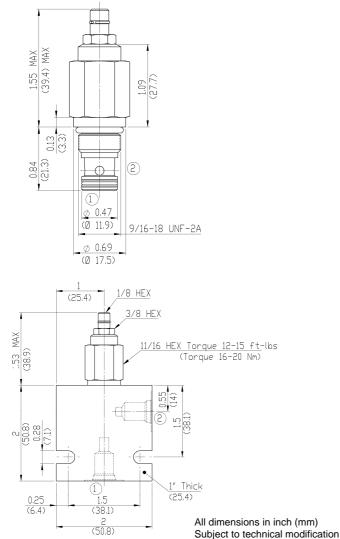
Operating pressure: Nominal flow: Pressure ranges:

Leakage:

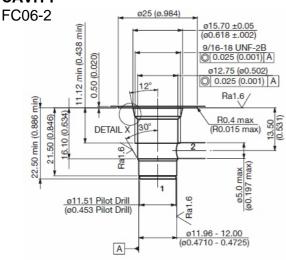
Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

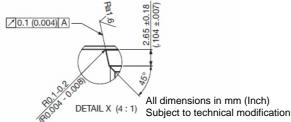
Installation: Materials:

Cavity: Weight: max. 350 bar max. 15 l/min 0 up to 125 bar 0 up to 210 bar 35 up to 350 bar leakage-free, < max. 0,35 cm<sup>3</sup>/min at 75% nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner no orientation restrictions Valve body: steel with hardened work surfaces Ball: hardened steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 0.068 kg



CAVITY







Twist drill Countersink



#### MODEL CODE

Basic model Pressure relief valve, direct acting

<u>DB06A</u> - 01 - C - N - 300 V 100

#### Туре

01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Pressure range

180 = 0 up to 125 bar (1800PSI) 300 = 0 up to 210 bar (3000PSI) 500 = 35 up to 350 bar (5000PSI)

#### Adjustment option —

V = adjustable by tool

#### Setting

omission = 50% of max. Pressure 100 = factory preset, pressure in PSI (/10) Other pressures on request

#### Standard models

Name	Part No.
DB06A-01-C-N-180V	2610428
DB06A-01-C-N-330V	2610235
DB06A-01-C-N-500V	2610155
Other types on request	

#### \*Line bodies

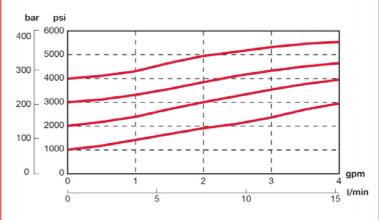
Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodie	s on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C

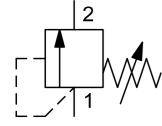


#### Annotation

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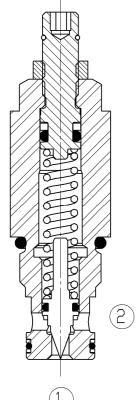
HYDAC Fluidtechnik GmbH Justus-von-Liebig-Str. 5 66280 Sulzbach / Saar Tel.: 06897 / 509 -0 Fax: 06897 / 509 -598 Email: flutec@hydac.com

#### SYMBOL



up to 20 l/min up to 350 bar

**FUNCTION** 



The Pressure relief valve DB06C is a direct acting, spring loaded valve with damped characteristics. Its job is to limit the pressure in the system. The spring acts with a certain force on the piston and presses it on the valve seat. On the opposite side the system pressure works at port 1. If the hydraulic force is lower than the spring pressure the valve remains closed. Only if the force is higher, the valve opens and the flow will be let to port 2 (tank). If the system pressure the valve closes again.

Attention: Pressure at port 2 increases the opening pressure! If ports are interchanged or the pressure adjustment is higher than the operating pressure, the function of the valve is invalid.

## Pressure Relief Valve Poppet type, direct acting Cartridge-Minivalve – 350 bar DB06C-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extend service life
- Fast response
- Adjustable under full system pressure
- Adjustable over the u.m. pressure range
- Various pressure ranges up to 350 bar
- Poppet type valve with damped characteristics

#### **SPECIFICATIONS**

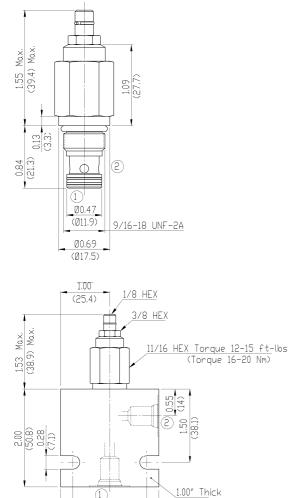
Operating pressure: Nominal flow: Pressure ranges:

Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

Cavity: Weight: max. 350 bar max. 20 l/min 0 up to 125 bar 0 up to 210 bar 35 up to 350 bar leakage-free, < max. 0,35 cm<sup>3</sup>/min at 75% nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 0.068 kg



Í.50

(38.1)

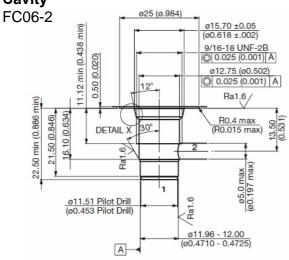
2.00

(50.8)

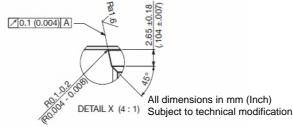
#### All dimensions in inch (mm) Subject to technical modification

Cavity

0.25



(25.4)







#### MODEL CODE

Basic model Pressure relief valve, direct acting

<u>DB06C</u> - 01 - C - N - 400 V 300

#### Туре ——

01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Pressure range

180 = 0 up to 125 bar (1800PSI) 300 = 0 up to 210 bar (3000PSI) 500 = 35 up to 350 bar (5000PSI)

#### Adjustment option -

V = adjustable by tool

#### Setting

omission = 50% of max. Pressure 300 = factory preset pressure in PSI (/10) Other pressures on request

#### Standard models

Name	Part No.
DB06C-01-C-N-180V	2610322
DB06C-01-C-N-300V	2610324
DB06C-01-C-N-500V	2610342
Other types on request	

#### \*Line bodies

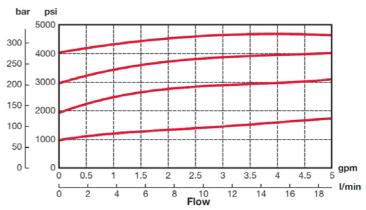
Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	s on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C

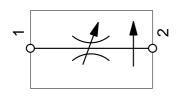


#### Annotation

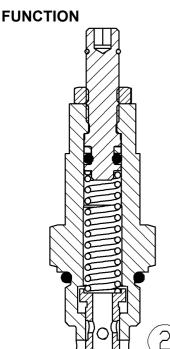
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#### SYMBOL



up to 15 l/min up to 350 bar



The SR06 is a 2 way directional flow control-valve, which keeps the nominal flow constant by means of a control function. The nominal flow is almost independent of the pressure and the viscosity. The valve is equipped with fixed orifice and integrated pressure compensator. The measuring orifice determines the nominal flow-adjustment range which is adjustable within a small range. If there is flow from port 1 to 2, a pressure differential is created at the measuring orifice. If the pressure compensator is in regulating position there is a balance of pressure differential at control piston surface on the one side and spring force on the other side. With rising flow (higher pressure differential) the cross-section of the regluating oricifice will be controlled that there is a balance of forces. Hereby a constant outlet flow will be reached.

## Flow Regulator Spool type, direct acting Cartridge-Minivalve – 350 bar SR06-01

#### FEATURES

- All exposed surfaces corrosion-proof
- Pressure compensated flow control of consumers
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extend service life
- Superior stability throughout the entire flow range

#### SPECIFICATIONS

Operating pressure:

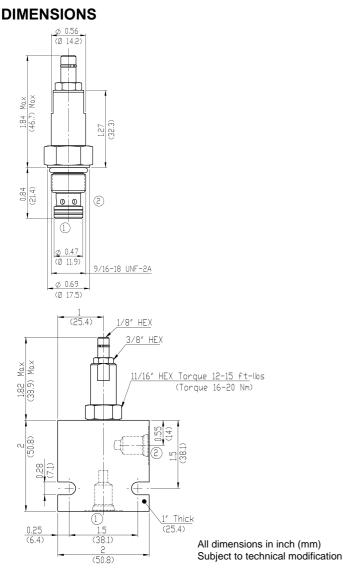
Nominal flow: Flow ranges:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

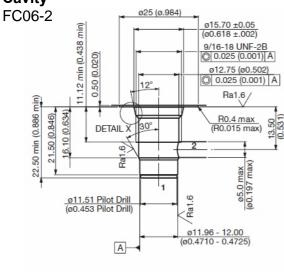
MTTF<sub>d</sub>: Installation: Materials:

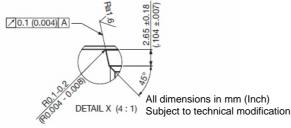
Cavity: Weight: max. 350 bar at port 1 (pump) max. 210 bar at port 2 (consumer) max. 15 l/min 0,25 up to 1,00 l/min 1,00 up to 3,80 l/min 3,80 up to 15,0 l/min Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 0,023 kg

/01.13



Cavity







Part No. 2582046 2582047 Countersink

### **MODEL CODE**

Basic model flow control valve, direct acting SR06 - 01 - C - N - 0.3 V 0.1

#### Type

01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Nominal flow range

0.3 = 0.25 up to 1,00 l/min (0.3 gpm) 1.0 = 1.00 up to 3,80 l/min (1.0 gpm) 4.0 = 3.80 up to 15,0 l/min (4.0 gpm)

#### Adjustment option

V = adjustable by tool

#### Setting

none = 50% of maximal Nominal flow 0.1 = 0.23 l/min - optional pre-adjustment on request

#### Standard models

Name	Part No.
SR06-01-C-N-0.3V	2610213
SR06-01-C-N-1.0V	2610194
SR06-01-C-N-4.0V	2610214
Other types on request	

#### \*Line bodies

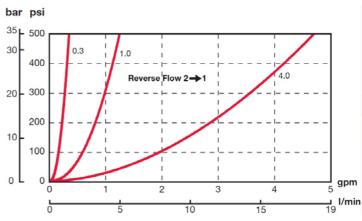
Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C



#### Annotation

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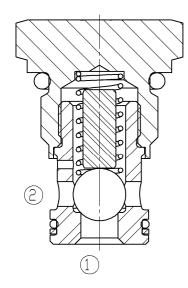
HYDAC Fluidtechnik GmbH Justus-von-Liebig-Str. 5 66280 Sulzbach / Saar Tel.: 06897 / 509 -0 Fax: 06897 / 509 -598 Email: flutec@hydac.com

#### SYMBOL



up to 20 l/min up to 350 bar

FUNCTION



The check valve RV06A is a direct acting, spring loaded ball valve. In the valve the spring holds the ball in closed position and blocks therefore from port 2 to 1. The valve opens, if the pressure at port 1 is higher than the pressure at port 2 including the spring force.

## Check Valve Ball type Cartridge-Minivalve – 350 bar RV06A-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components
- to ensure minimal wear and extend service life
- Superior stability throughout the entire flow range

#### **SPECIFICATIONS**

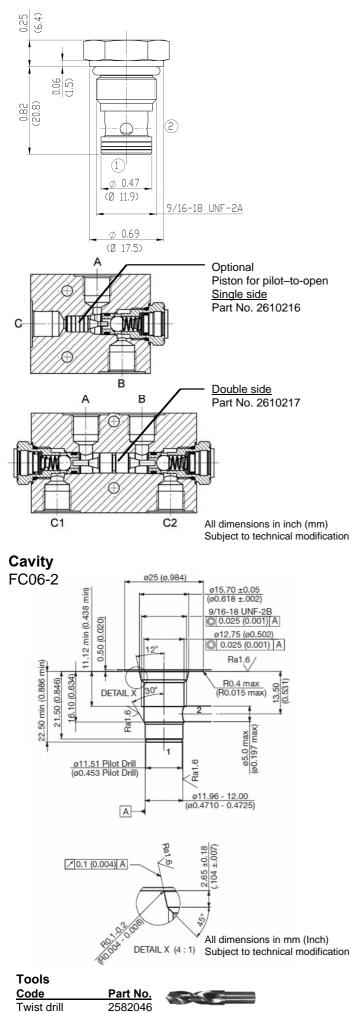
Operating pressure: Nominal flow: Cracking pressures:

Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

Installation: Materials: max. 350 bar max. 20 l/min 0.35 bar 2.10 bar leakage-free, < max. 0,35 cm<sup>3</sup>/min at nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner no orientation restrictions Valve body: steel with hardened work surfaces Ball: hardened steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 0,045 kg

Cavity: Weight: UNF



2582047

Countersink

#### MODEL CODE



Туре

01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Setting

5 = 0.35 bar (5 PSI) 15 = 1.0 bar (15 PSI) 30 = 2.1 bar (30 PSI) 70 = 4.8 bar (70 PSI)

#### Standard models

Name	Part No.
RV06A-01-C-N-05	2610212
RV06A-01-C-N-30	2610154
Other types on request	

#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	d G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	on request			

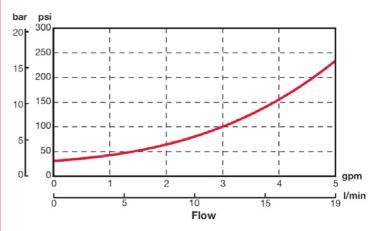
<u>RV06A</u> - 01 - C - N - 30

#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C

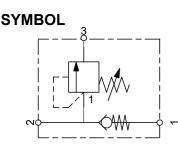


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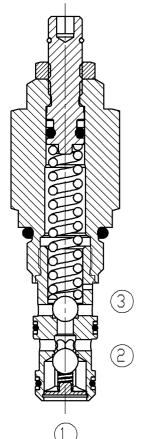
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up to 15 l/min up to 350 bar

**FUNCTION** 



The check valve RV06B is a direct acting, spring loaded ball valve with integrated pressure relief valve.

If there is no flow the spring holds the ball in closed position and blocks therefore flow from port 1 to 2. The check valve opens, if the pressure at port 2 is higher than the pressure at port 1 including the spring force. If the pressures rises in the inlet pipe over the pre-adjusted pressure the relief valve opens to tank. Any pressure at port 3 is additive to the relief pressure setting.

## Check Valve Ball type with pressure relief function Cartridge-Minivalve – 350 bar RV06B-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extend service life
- Combination of two functions in one valve
- Pressure ranges up to 350 bar
- adjustable under full pressure
- fast closing
- protecting the system and the pump before pressure peaks

#### **SPECIFICATIONS**

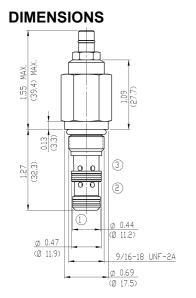
Operating pressure: Nominal flow: Pressure ranges (DB):

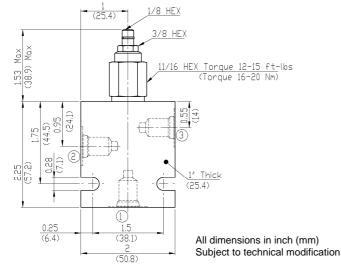
Cracking pressure (Che ckfunction): Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

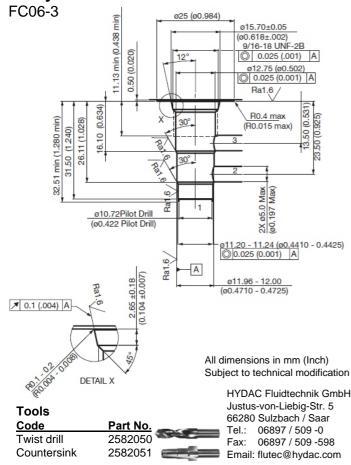
Installation: Materials: max. 350 bar max. 15 l/min 0 up to 125 bar 0 up to 210 bar 0 up to 350 bar 0.35 bar leakage-free, < max. 0,35 cm<sup>3</sup>/min at 75% nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner no orientation restrictions Valve body: steel with hardened work surfaces Ball: hardened steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-3 0,027 kg

Cavity: Weight:





Cavity



#### MODEL CODE

Basic model Check valve, direct acting

,

**Type** 01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Pressure ranges

180 = 0 up to 125 bar (3000 PSI) 300 = 0 up to 210 bar (3000 PSI) 500 = 0 up to 350 bar (5000 PSI)

#### Adjustment option

V = adjustable by tool

#### Setting

none = 50% of max. Pressure 100 = 69 bar (1000 PSI) – factory preset pressure

#### Standard models

<u>Name</u>	Part No.
RV06B-01-C-N-300V	2610236
RV06B-01-C-N-500V	2610164
Other types on request	

#### \*Line bodies

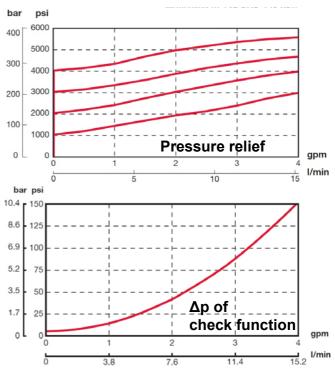
Code	Part No.	Material	Ports	<b>Pressure</b>
FH063-SB2	3740562	steel, zinc plate	ed G1/4	420 bar
FH063-AB2	3741286	Alu, anodized	G1/4	245 bar
other line bodies	on request			

<u>RV06B</u> - 01 - C - N - 300 V 100

#### Seal kits

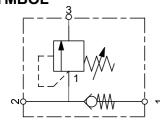
Code	Part No.
Seal kit-NBR	2610186
Seal kit-FKM	2610187

#### PERFORMANCE



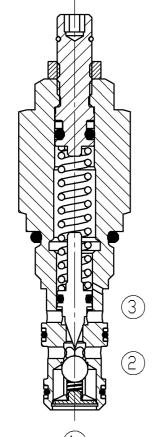






up to 20 l/min up to 350 bar

FUNCTION



The check valve RV06C is a direct acting, spring loaded ball valve with integrated pressure relief valve. If there is no flow the spring holds the ball in closed position and blocks therefore flow from port 1 to 2. The check valve opens, if the pressure at port 2 is higher than the pressure at port 1 including the spring force. If the pressures rises in the inlet pipe over the pre-adjusted pressure the relief valve opens to tank. Any pressure at port 3 is additive to the relief pressure setting.

## Check Valve Ball type with pressure relief function Cartridge-Minivalve – 350 bar RV06C-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extend service life
- Combination of two functions in one valve
- Pressure ranges up to 350 bar
- adjustable under full pressure
- fast closing
- protecting the system and the pump before pressure peaks
- Pressure relief with damped piston making the valve less prone to vibrations

max. 350 bar

max. 20 l/min

0 up to 125 bar 0 up to 210 bar 35 up to 350 bar

#### SPECIFICATIONS

Operating pressure: Nominal flow: Pressure ranges (DB):

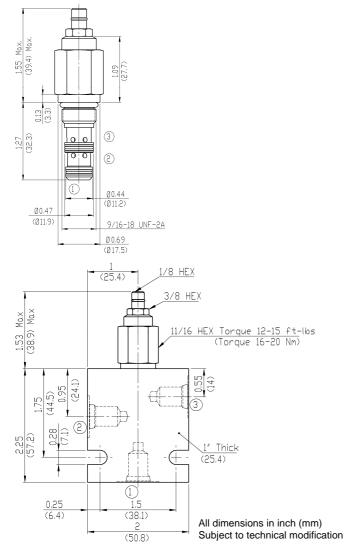
Cracking pressure (check function): Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

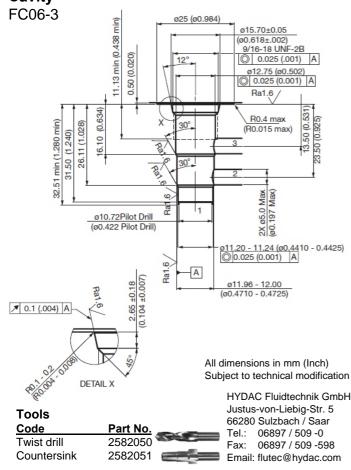
MTTF<sub>d</sub>: Installation: Materials: 0.35 bar leakage-free, < max. 0,35 cm<sup>3</sup>/min at 75% nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-3 0,027 kg

Cavity: Weight:

T E 5.145.1 /01.13



Cavity



#### **MODEL CODE**

Basic model Check valve, direct acting

Type 01 = Standard

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Pressure range

180 = 0 up to 125 bar (1800 PSI) 300 = 0 up to 210 bar (3000 PSI) 500 = 35 up to 350 bar (5000 PSI)

#### Adjustment option

V = adjustable by tool

#### Setting

none = 50% of max. Pressure 100 = 69 bar (1000 PSI) - factory preset pressure

#### Standard models

Name	Part No.
RV06C-01-C-N-180V	2610323
RV06C-01-C-N-300V	2610325
RV06C-01-C-N-400V	2610343
Other types on request	

#### \*Line bodies

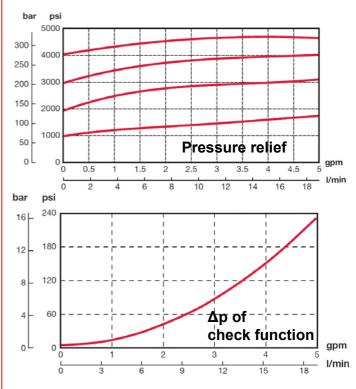
Code	Part No.	Material	Ports	Pressure
FH063-SB2	3740562	steel, zinc plate	ed G1/4	420 bar
FH063-AB2	3741286	Alu, anodized	G1/4	245 bar
other line bodies	s on request			

<u>RV06C</u> - 01 - C - N - 180 V 100

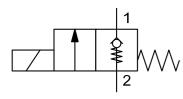
#### Seal kits

Code	Part No.
Seal kit-NBR	2610186
Seal kit-FKM	2610187

#### PERFORMANCE

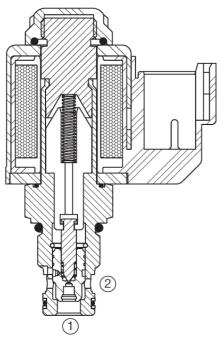


SYMBOL



up to 20 l/min up to 350 bar

FUNCTION



In de-energized mode the valve blocks flow from port 2 to 1. In the opposite direction the valve piston opens at a pressure differential from approx. 1,8 bar (Check function). If energized, there is flow from port 2 to 1. A backflow from port 1 to 2 is severely restricted. 2/2 Solenoid Directional Valve UNE Poppet type, pilot operated, normally closed Cartridge-Minivalve – 350 bar WS06Z-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

max. 350 bar

- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials: max. 20 l/min leakage-free, < max. 0,35 cm3/min at nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 Complete valve: 0,165 kg Coil only: 0,088 kg

Cavity: Weight:

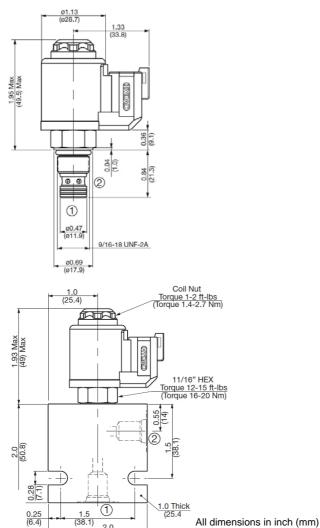
**Electrical data** Type of voltage:

Nominal current at 20°C:

Voltage tolerance: Coil duty rating:

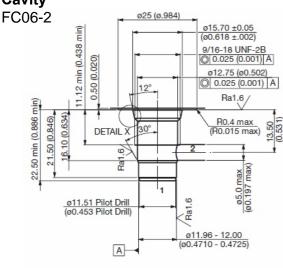
Switching time:

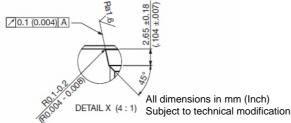
DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 35 ms De-energized: approx. 50 ms



2.0

Cavity





Tools Code Twist drill

Countersink

Part No. 2582046 2582047

#### **MODEL CODE**

WS06Z - 01M - C - N - 24 DN

Basic model Directional poppet valve, pilot operated

#### Type

- 01 = Standard
- 01M = manual override
- 30 = with protection strainer around port 2

#### Body & ports C = cartridge only

\*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage

0	= without coil (with nut and Seals)
•	

- DC: 12 = 12 Volt DC voltage
- 24 = 24 Volt DC voltage
- 115 = 105 Volt DC voltage AC: 230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
    - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WS06Z-01-C-N-0 without coil	2610237
(coil please choose from brochure D 5	.155.0 )
Other types on request	

#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	s on request			

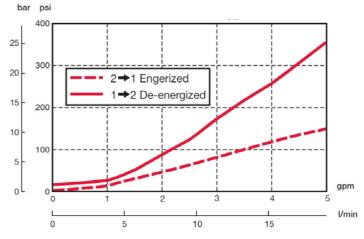
#### Seal kits

Subject to technical modification

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C



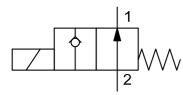
#### Annotation

The technical information in this brochure are relating to the operating conditions and applications. At deviant applications and/or operating conditions please contact the technical dept. Technical information are subject to technical modifications.

HYDAC Fluidtechnik GmbH Justus-von-Liebig-Str. 5 66280 Sulzbach / Saar Tel.: 06897 / 509 -0 Fax: 06897 / 509 -598 Email: flutec@hydac.com

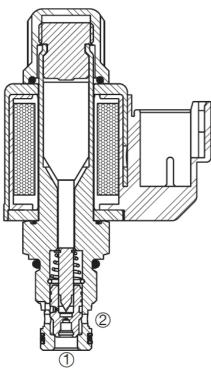
# **EMDAD** INTERNATIONAL

SYMBOL



up to 20 l/min up to 350 bar

FUNCTION



In de-energized mode there is flow from port 2 to 1.

If energized, the valve blocks flow from port 2 to 1.

In the opposite direction it opens if the pressure force on den piston is higher than the magnet force (approx. 9 up to 20 bar).

2/2 Solenoid Directional Valve UNE Poppet type, pilot operated, normally open Cartridge-Minivalve – 350 bar WS06Y-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

Cavity: Weight:

> **Electrical data** Type of voltage:

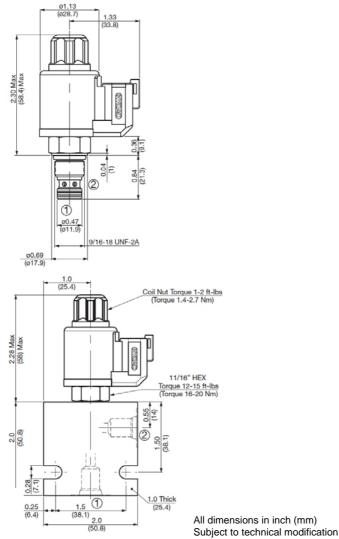
Nominal current at 20°C:

Voltage tolerance: Coil duty rating:

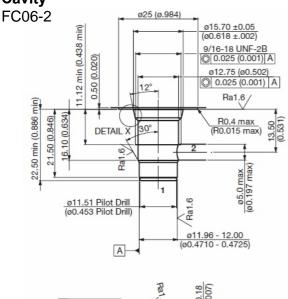
Switching time:

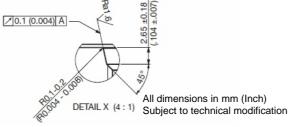
max. 350 bar max. 20 l/min leakage-free, < max. 0,35 cm3/min at nominal pressure Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 Complete valve: 0,165 kg Coil only: 0,088 kg

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 50 ms De-energized: approx. 35 ms



Cavity





Tools Code Twist drill Countersink



#### **MODEL CODE**

Basic model directionalpoppet valve, pilot operated

#### Type

- 01 = Standard
- 01M = manual override
- 30 = with protection strainer around port 2

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage -

0	= without coil (with nut and Seals)
DC:	12 = 12 Volt DC voltage
	24 = 24 Volt DC voltage
AC:	115 = 105 Volt DC voltage
	220 205 Valt DC valtage (at AC valt

230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WS06Y - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

DC: DG = DIN Plug to EN175301-803 Form B

- DL = 2 leadwires, 450mm long
  - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WS06Y-01-C-N-0 without coil	2610209
(coil please choose from brochure D 5.155.0	))
Other types on request	

#### \*Line bodies

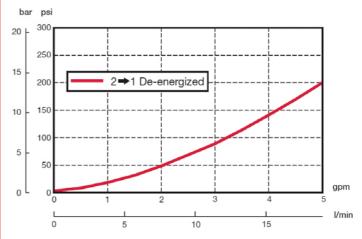
Code	Part No.	Material	Ports	<b>Pressure</b>
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodie	s on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C

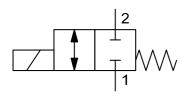


#### Annotation

The technical information in this brochure are relating to the operating conditions and applications. At deviant applications and/or operating conditions please contact the technical dept. Technical information are subject to technical modifications.

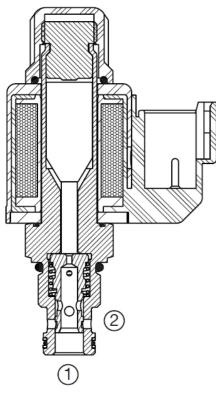
HYDAC Fluidtechnik GmbH Justus-von-Liebig-Str. 5 66280 Sulzbach / Saar Tel.: 06897 / 509 -0 Fax: 06897 / 509 -598 Email: flutec@hydac.com

SYMBOL



up to 10 l/min up to 350 bar

FUNCTION



In de-energized mode the valve is blocked in both directions. If energized, the valve opens and allows the flow in both directions.

## 2/2 Solenoid Directional Valve UNE Spool type, direct acting, Cartridge-Minivalve – 350 bar WK06W-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

max. 350 bar

max. 10 l/min

- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTFd: Installation: Materials: < max. 90 cm3/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 Complete valve: 0,165 kg Coil only: 0,088 kg

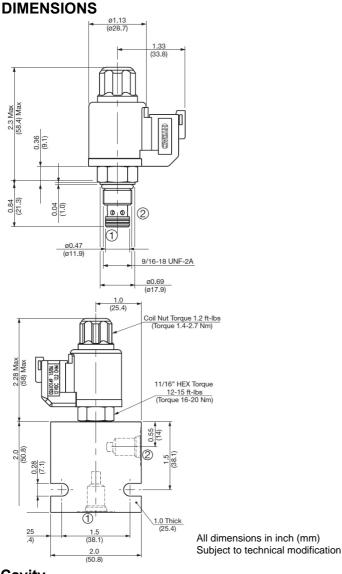
Cavity: Weight:

**Electrical data** Type of voltage:

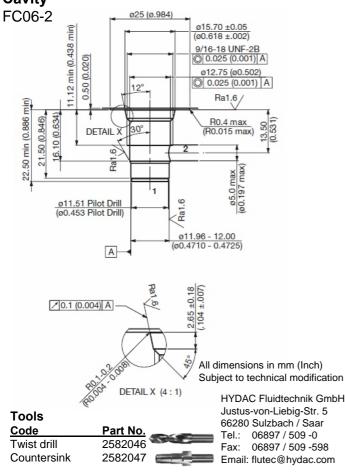
Nominal current at 20°C:

Voltage tolerance: Coil duty rating: DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature

00 E 5.148.1 /01.13



Cavity



#### **MODEL CODE**

Basic model Directional Spool type, direct acting

WK06W - 01M - C - N - 24 DN

plug with

#### Type

01 = Standard 01M = manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage -

0	= without coil (with nut and Seals)
DC:	12 = 12 Volt DC voltage
	24 = 24 Volt DC voltage
AC:	115 = 105 Volt DC voltage
	230 = 205 Volt DC voltage (at AC voltage pl
	suppressor diode necessary Mat. 2600582)

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
    - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06W-01-C-N-0 without coil	2610182
(coil please choose from brochure D 5.155.0	)
Other types on request	

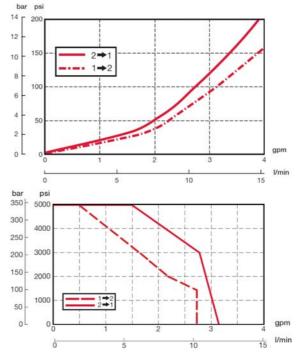
#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	on request			

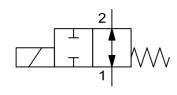
#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

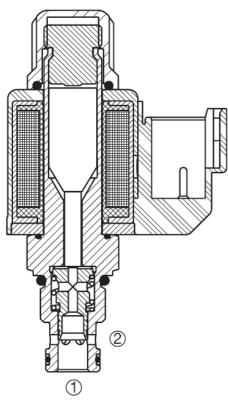


#### SYMBOL



up to 15 l/min up to 350 bar

FUNCTION



In de-energized mode the valve is open in both directions. If energized, the valve closes and blocks the flow in both directions.

### 2/2 Solenoid Directional valve UNE Spool type, direct acting, Cartridge-Minivalve – 350 bar WK06V-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTFd: Installation: Materials:

Cavity: Weight:

**Electrical data** Type of voltage:

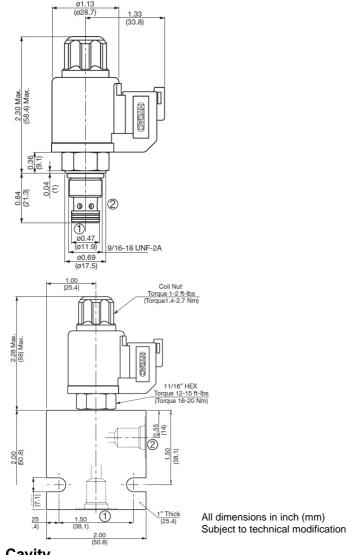
Nominal current at 20°C:

Voltage tolerance: Coil duty rating:

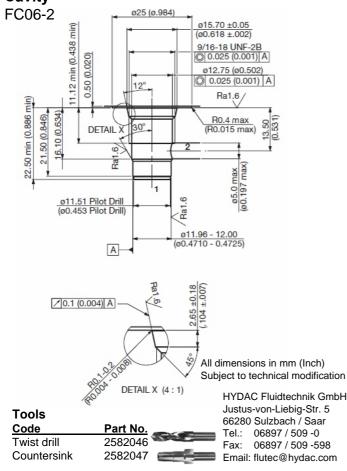
Switching time:

max. 350 bar max. 15 l/min < max. 90 cm3/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-2 Complete valve: 0,170 kg Coil only: 0,088 kg

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 50 ms De-energized: approx. 35 ms



Cavity



#### **MODEL CODE**

Basic model Directional Spool type, direct acting

#### Type

01 = Standard 01M = manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage -

0	= without coil (with nut and Seals)
DC:	12 = 12 Volt DC voltage
	24 = 24 Volt DC voltage
AC:	115 = 105 Volt DC voltage
	220 20E Valt DC valtage (at AC valta

230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WK06V - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
    - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06V-01-C-N-0 without coil	2610222
(coil please choose from brochure D 5.155.0	)
Other types on request	

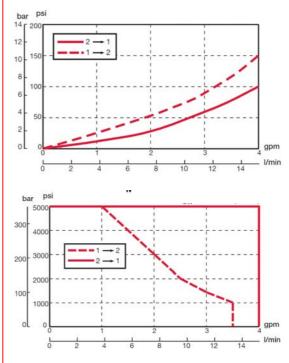
#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH062-SB2	3740528	steel, zinc plate	ed G1/4	420 bar
FH062-AB2	3741297	Alu, anodized	G1/4	245 bar
other line bodies	s on request			

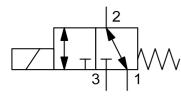
#### Seal kits

Code	Part No.
Seal kit-NBR	2610184
Seal kit-FKM	2610185

#### PERFORMANCE

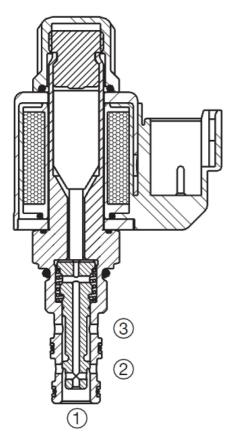


SYMBOL



up to 10 l/min up to 350 bar

FUNCTION



In de-energized mode there is free flow from port 1 to 2 and in the opposite direction. Port 3 is closed. If energized, the valve allows flow from port 2 to 3 and in the opposite direction. Port 1 is closed.

## 3/2 Solenoid Directional Valve UNE Spool type, direct acting Cartridge-Minivalve – 350 bar WK06C-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

max. 350 bar

max. 10 l/min

- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials: < max. 90 cm<sup>3</sup>/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-3 Complete valve: 0,175 kg Coil only: 0,088 kg

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 30 - 60 ms De-energized: approx. 20 - 40 ms

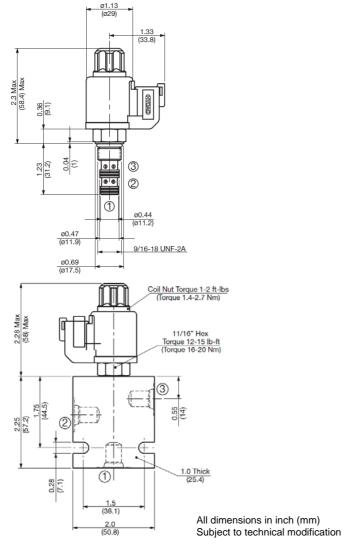
Cavity: Weight:

**Electrical data** Type of voltage:

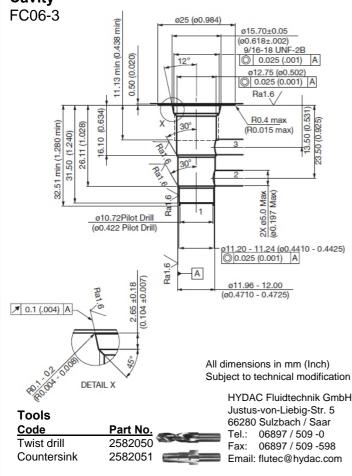
Nominal current at 20°C:

Voltage tolerance: Coil duty rating:

Switching time:



Cavity



#### **MODEL CODE**

Basic model Directional Spool type, direct acting

WK06C - 01M - C - N - 24 DN

#### Type

01 = Standard 01M = manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage -

0	= without coil (with nut and Seals)
DC:	12 = 12 Volt DC voltage
	24 = 24 Volt DC voltage
AC:	115 = 105 Volt DC voltage
	230 = 205 Volt DC voltage (at AC voltage plug with
	suppressor diode necessary Mat. 2600582)

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
    - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06C-01-C-N-0 without coil	2610183
(coil please choose from brochure D 5.155.0	)
Other types on request	

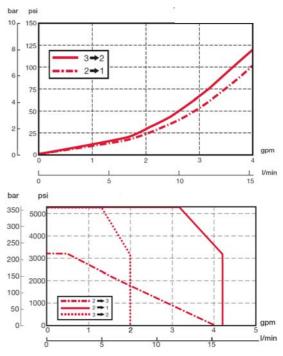
#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH063-SB2	3740562	steel, zinc plate	ed G1/4	420 bar
FH063-AB2	3741286	Alu, anodized	G1/4	245 bar
other line bodies	s on request			

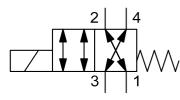
#### Seal kits

Code	Part No.
Seal kit-NBR	2610186
Seal kit-FKM	2610187

#### PERFORMANCE

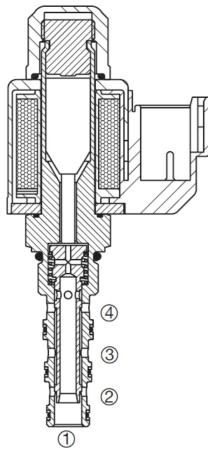


SYMBOL



up to 10 l/min up to 350 bar

FUNCTION



In de-energized mode, the valve allows flow from port 1 to 2 and from 3 to 4 and also in the opposite direction. If energized, the valve allows flow from port 1 to 4 and from 3 to 2 and also in the opposite direction.

## 4/2 Solenoid Directional Valve UNE Spool type, direct acting Cartridge-Minivalve – 350 bar WK06Y-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

max. 350 bar

- Coil seals protect the solenoid system
- Coil easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure: Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials: max. 10 l/min < max. 100 cm<sup>3</sup>/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-4 Complete valve: 0,190 kg Coil only: 0,088 kg

Cavity: Weight:

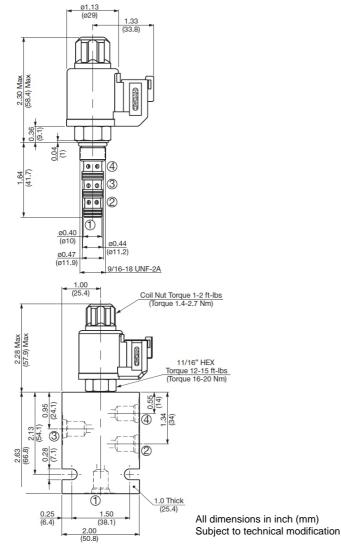
**Electrical data** Type of voltage:

Nominal current at 20°C:

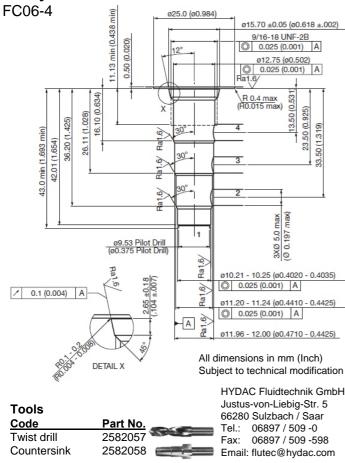
Voltage tolerance: Coil duty rating:

Switching time:

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 30 - 60 ms De-energized: approx. 20 - 40 ms



Cavity



#### MODEL CODE

Basic model Directional Spool type, direct acting

WK06Y - 01M - C - N - 24 DN

#### Туре \_\_\_\_\_

01 = Standard 01M = manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage

0	= without coil (with nut and Seals)
DC:	12 = 12 Volt DC voltage
	24 = 24 Volt DC voltage
AC:	115 = 105 Volt DC voltage
	230 = 205 Volt DC voltage (at AC voltage plug with
	suppressor diode necessary Mat. 2600582)

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B DL = 2 leadwires, 450mm long
  - DL = 2 leadwires, 450mm long DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06Y-01-C-N-0 without coil	2610203
(coil please choose from brochure D	5.155.0 )
Other types on request	

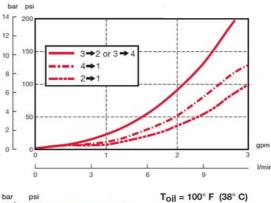
#### \*Line bodies

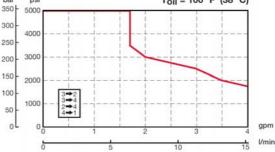
Code	Part No.	Material	Ports	Pressure
FH064-SB2	3740589	steel, zinc plate	ed G1/4	420 bar
FH064-AB2	3741315	Alu, anodized	G1/4	245 bar
other line bodies on request				

#### Seal kits

Code	Part No.
Seal kit-NBR	2610188
Seal kit-FKM	2610189

#### PERFORMANCE



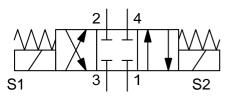


# **INTERNATIONAL**

Spool type, direct acting

Cartridge-Minivalve – 350 bar

SYMBOL



up to 11 l/min up to 350 bar

FUNCTION

# S1 S2

In de-energized mode all ports are

If the coil S1 is energized, there is free flow from port 3 to 4 and from 2

If the coil S2 is energized, there is flow from port 3 to 2 and from 4 to 1.

#### **FEATURES**

WK06E-01

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

4/3 Solenoid Directional Valve UNE

- Coil seals protect the solenoid system
- Coils easy to exchange and pivotable

#### **SPECIFICATIONS**

Operating pressure:

Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

Cavity: Weight:

**Electrical data** Type of voltage:

Nominal current at 20°C:

Voltage tolerance: Coil duty rating:

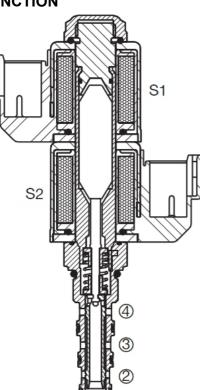
Switching time:

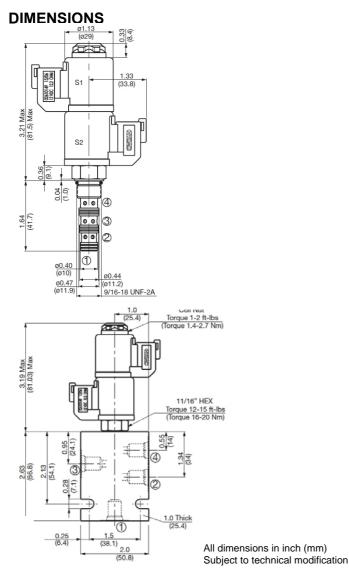
max. 350 bar max. 210 bar at Tank (port 1) max. 11 l/min < max. 100 cm<sup>3</sup>/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-4 Complete valve: 0,374 kg Coil only: 0,088 kg (2x)

DC coil, AC voltage is rectified by a rectifier built-in the plua 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature Energized: approx. 30 - 60 ms De-energized: approx. 20 - 40 ms

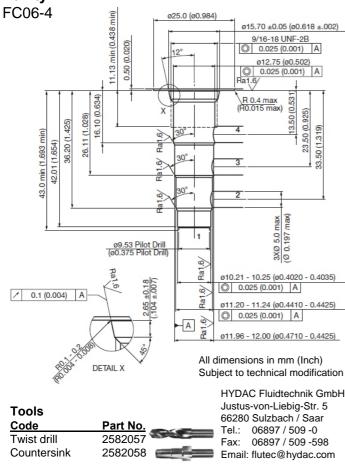
5.151.1 /01.13

ш 28









#### **MODEL CODE**

Basic model Directional Spool type, direct acting

#### Type

01 = Standard

01M = manual override

01A = lockable manual override

#### Body & ports

C = cartridge only\*versions in line bodies on request

#### Seals

N = NBR (Standard)

V = FKM (optional)

#### Coil voltage

= without coil (with nut and Seals) 0

- 12 = 12 Volt DC voltage DC:
- 24 = 24 Volt DC voltage AC: 115 = 105 Volt DC voltage
  - 230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WK06E - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
  - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06E-01-C-N-0 without coil	2610190
(coils please choose from brochure D	5.155.0)
Other types on request	

#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH064-SB2	3740589	steel, zinc plate	ed G1/4	420 bar
FH064-AB2	3741315	Alu, anodized	G1/4	245 bar
other line bodies	on request			

#### Seal kits

150 200

100

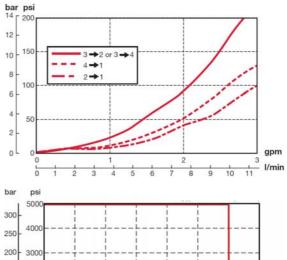
٥

1000 50

Code	Part No.
Seal kit-NBR	2610188
Seal kit-FKM	2610189

#### PERFORMANCE

Measured at 28 mm<sup>2</sup>/s and T oil = 38°C



4->

apm

I/min

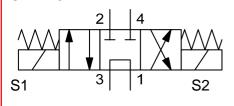
10

12

Spool type, direct acting

Cartridge-Minivalve – 350 bar

SYMBOL



up to 7 l/min up to 350 bar

#### FUNCTION

# 

In de-energized mode the ports 2 and 4 are blocked – whereas there is flow from port 3 to 1 and in opposite direction.

If the coil S1 is energized, there is flow from port 3 to 2 and from 4 to 1  $\,$ . If the coil S2 is energized, there is flow from port 3 to 4 and from 2 to 1  $\,$ .

#### **FEATURES**

WK06G-01

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

4/3 Solenoid Directional Valve UNE

- Coil seals protect the solenoid system
- Coils easy to exchange and pivotable

#### **SPECIFICATIONS**

Operating pressure:

Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

Cavity: Weight:

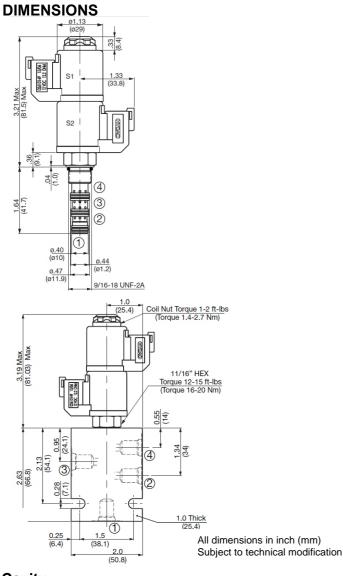
**Electrical data** Type of voltage:

Nominal current at 20°C:

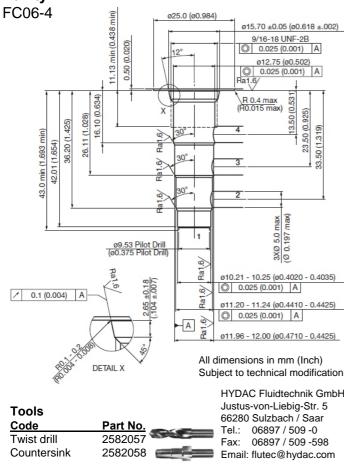
Voltage tolerance: Coil duty rating: max. 350 bar max. 210 bar at Tank (port 1) max. 7 l/min < max. 100 cm<sup>3</sup>/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-4 Complete valve: 0,374 kg Coil only: 0,088 kg (2x)

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature

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#### MODEL CODE

Basic model Directional Spool type, direct acting

#### Type -

01 = Standard

01M = manual override

01A = lockable manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard)

V = FKM (optional)

#### Coil voltage

0 = without coil (with nut and Seals)

- DC: 12 = 12 Volt DC voltage
- 24 = 24 Volt DC voltage
- AC: 115 = 105 Volt DC voltage 230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WK06G - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
  - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06G-01-C-N-0 without coil	2610192
(coils please choose from brochure D 5	.155.0)
Other types on request	

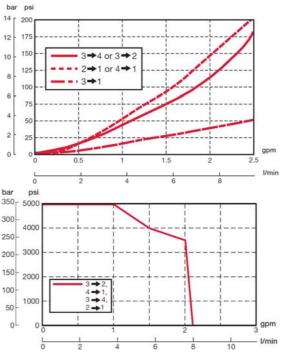
#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH064-SB2	3740589	steel, zinc plate	ed G1/4	420 bar
FH064-AB2	3741315	Alu, anodized	G1/4	245 bar
other line bodies	on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610188
Seal kit-FKM	2610189

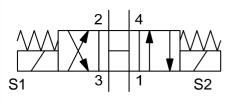
#### PERFORMANCE



Spool type, direct acting

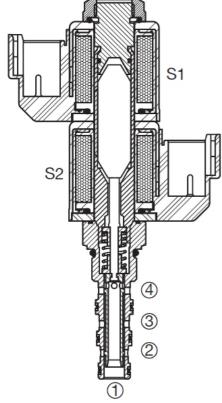
Cartridge-Minivalve – 350 bar

SYMBOL



up to 9 l/min up to 350 bar

### FUNCTION



In de-energized mode all ports are connected.

If the coil S1 is energized, there is flow from port 3 to 4 and from 2 to 1  $\,$ . If the coil S2 is energized, there is flow from port 3 to 2 and from 4 to 1  $\,$ .

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32

#### **FEATURES**

WK06H-01

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life

4/3 Solenoid Directional Valve UNF

- Coil seals protect the solenoid system
- Coils easy to exchange and pivotable

#### **SPECIFICATIONS**

Operating pressure:

Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

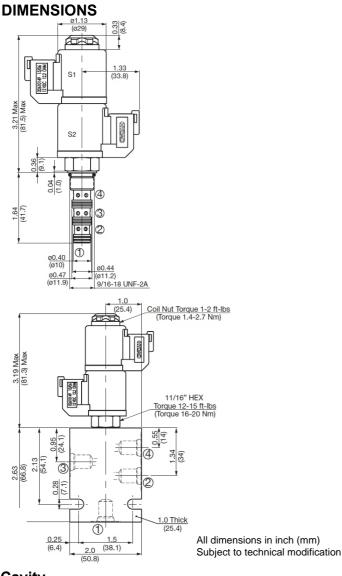
Cavity: Weight:

**Electrical data** Type of voltage:

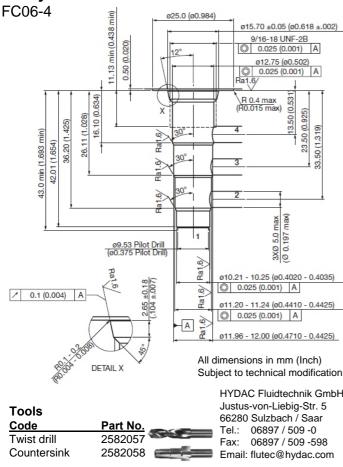
Nominal current at 20°C:

Voltage tolerance: Coil duty rating: max. 350 bar max. 210 bar at Tank (port 1) max. 9 l/min < max. 100 cm<sup>3</sup>/min at 207 bar and 28 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-4 Complete valve: 0,374 kg Coil only: 0,088 kg (2x)

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature







#### **MODEL CODE**

Basic model Directional Spool type, direct acting

Type 01 = Standard

01M = manual override

01A = lockable manual override

#### Body & ports

C = cartridge only \*versions in line bodies on request

#### Seals

N = NBR (Standard) V = FKM (optional)

#### Coil voltage

- 0 = without coil (with nut and Seals)
- DC: 12 = 12 Volt DC voltage
- 24 = 24 Volt DC voltage
- AC: 115 = 105 Volt DC voltage 230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WK06H - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
    - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06H-01-C-N-0 without coil	2610193
(coils please choose from brochure D 5.155.	0)
Other types on request	

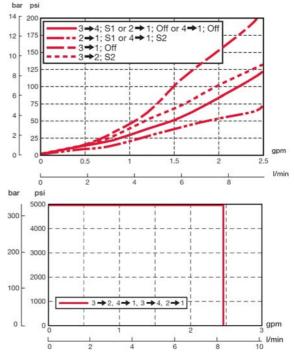
#### \*Line bodies

Code	Part No.	Material	Ports	Pressure
FH064-SB2	3740589	steel, zinc plate	ed G1/4	420 bar
FH064-AB2	3741315	Alu, anodized	G1/4	245 bar
other line bodies	on request			

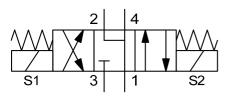
#### Seal kits

Code	Part No.
Seal kit-NBR	2610188
Seal kit-FKM	2610189

#### PERFORMANCE



SYMBOL



up to 11 l/min up to 350 bar

FUNCTION

# 

In de-energized mode the ports 2, 4 and 1 are connected, while port 3 is blocked.

If the coil S1 is energized, there is flow through the valve from port 3 to 4 and from 2 to 1.

If the coil S2 is energized, there is flow from port 3 to 2 and from 4 to 1.

## 4/3 Solenoid Directional Valve UNE Spool type, direct acting Cartridge-Minivalve – 350 bar WK06J-01

#### FEATURES

- All exposed surfaces corrosion-proof
- All valve parts made of high-strength steel with hardened and ground components to ensure minimal wear and extended service life
- Coil seals protect the solenoid system
- Coils easy to exchange and pivotable

#### SPECIFICATIONS

Operating pressure:

Nominal flow: Leakage:

Temperature range of operating fluid: Ambient temperature range: Fluid: Viscosity range: Filtration:

MTTF<sub>d</sub>: Installation: Materials:

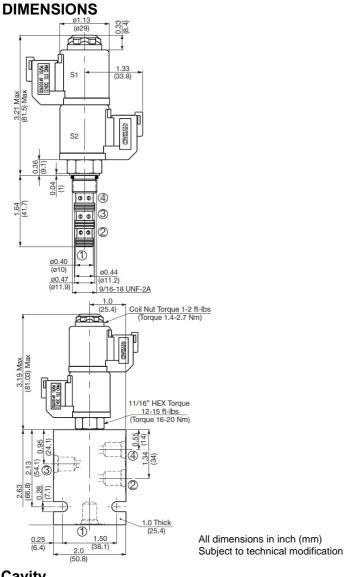
Cavity: Weight:

**Electrical data** Type of voltage:

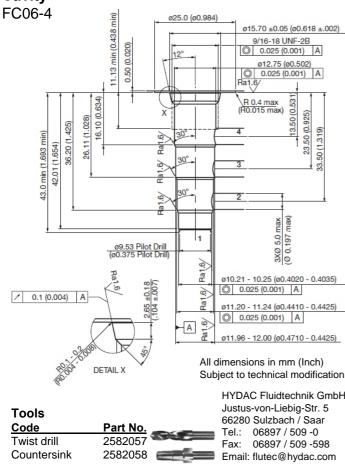
Nominal current at 20°C:

Voltage tolerance: Coil duty rating: max. 350 bar max. 210 bar at Tank (port 1) max. 11 l/min < max. 100 cm<sup>3</sup>/min at 250 bar and 34 mm<sup>2</sup>/s Min. - 30°C up to max. +100° C Min. - 30°C up to max. + 60° C Hydraulic fluid to DIN 51524 T1 + T2 min. 7,4 mm<sup>2</sup>/s up to max. 420 mm<sup>2</sup>/s Class 21 / 19 /16 according to ISO 4406 or cleaner 150 years no orientation restrictions Valve body: steel with hardened work surfaces Piston: hardened and ground steel Seals: NBR (Standard) FKM (optional, temperature range -20°C up to +120°C) Back-up rings: TPE-E FC06-4 Complete valve: 0,374 kg Coil only: 0,088 kg (2x)

DC coil, AC voltage is rectified by a rectifier built-in the plug 984 mA at 12 V DC 492 mA at 24 V DC +/- 15% of Coil voltage 100% continuous up to max. 115% of Coil voltage at 60°C ambient temperature



Cavity



#### **MODEL CODE**

Basic model Directional Spool type, direct acting

#### Type

01 = Standard

01M = manual override

01A = lockable manual override

#### Body & ports

C = cartridge only\*versions in line bodies on request

#### Seals

N = NBR (Standard)

V = FKM (optional)

#### Coil voltage

= without coil (with nut and Seals) 0

- DC: 12 = 12 Volt DC voltage
- 24 = 24 Volt DC voltage AC: 115 = 105 Volt DC voltage 230 = 205 Volt DC voltage (at AC voltage plug with suppressor diode necessary Mat. 2600582)

WK06J - 01M - C - N - 24 DN

#### Coil connector (Coil... 32-1329)

- DC: DG = DIN Plug to EN175301-803 Form B
  - DL = 2 leadwires, 450mm long
  - DN = Deutsch Plug, axial (Type DT04-2P)

#### Standard models

Code	Part No.
WK06J-01-C-N-0 without coil	2610191
(coils please choose from brochure D	5.155.0)
Other types on request	

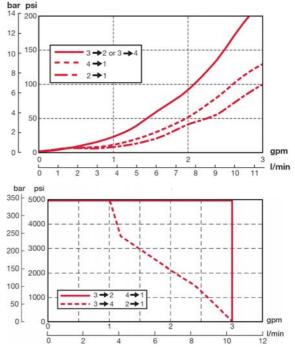
#### \*Line bodies

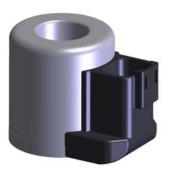
Code	Part No.	Material	Ports	Pressure
FH064-SB2	3740589	steel, zinc plate	ed G1/4	420 bar
FH064-AB2	3741315	Alu, anodized	G1/4	245 bar
other line bodies	on request			

#### Seal kits

Code	Part No.
Seal kit-NBR	2610188
Seal kit-FKM	2610189

#### PERFORMANCE



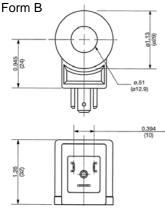


## **Coils for Minivalves** (for solenoid operated directional valves) Type 32-1329

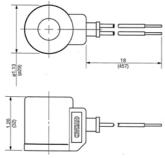
for following valves:

WS06Z WK06W WK06Y WK06G WK06J WS06Y WK06C WK06E WK06H

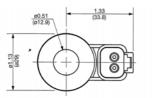
Connector type G DIN Plug to EN175-301-803

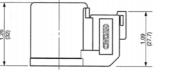


Connector type L 2 leadwires, 450mm long



Connector type N Deutsch Plug, 2-poles (Type DT04-2P)





#### FEATURES-

#### - Maximal force at minimal space requirement,

by perfect wound coil - maximal copper : avoids damages of the insulation of the wires (breakdown by short-circuits)

- Fully closed coil internal coil sealing avoids humidity and short-circuits in the winding
- Designed for 100% coil duty rating at Imax and ambient temperatures from -20° up to +60°C
- Small energy consumption by optimal design of force – energy ratio
- High mechanical resistance, by zinc plated steel cover
- High thermal stability, to U.L. class N (180°C)
- Standardized 3 different electrical connectors with IP ratings IP65, IP67 and IP6K9K DIN/EN Plug (G) IP65 Form B, leadwires (L) IP65/IP67//IP6K9K, Deutsch Plug (N) IP65/IP67/IP6K9K others on request
- Mounting direction optional, by symmetrical coil design
- Coil dimension = typification Type 32-1329 = 32mm high (13 mm inside Ø, 29 mm outside Ø)
- Class UL 583 permitted coils available on demand

SPECIFICATIONS

Coil duty rating:

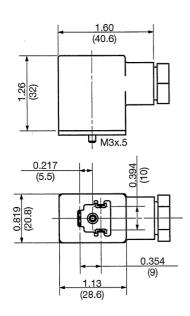
Max. permitted temperature at coil: Power intake:

coil tenWindings:to U.L. oOuter shell:steel, zPlug socket:Polyam(All data are valid for a coil mounted on valve)

100% continuous up to max. 115% of Coil voltage at max. 60° C ambient temperature 160° C 12 W at Imax and 20° C coil temperature to U.L. class N (180°C) steel, zinc plated Polyamide, black

#### Description

In general the coil is produced as DC coil.



DIN plug according to EN 175-803 Form B for: <u>Connection to DC power</u> Part. No. 2600570

Connection to AC power Part. No. 2600582 with integrated rectifier

#### MODEL CODE

Basic model

#### Coil voltage

12 V DC 24 V DC 105 V DC (Only Connector type DG) 205 V DC (Only Connector type DG) (at AC voltage Plug with suppressor diode necessary Mat. 2600582)

#### Type of voltage -

D = DC voltage DC, directional valve

#### **Coil connectors**

G = Plug to EN175301-803 Form B, IP rating IP65

- L = 2 leadwires, 0.75mm<sup>2</sup>, 450mm (18") long
- IP rating IP65 /IP67/IP6K9K

N = Deutsch Plug, 2-poles, (DT04-2P) IP rating IP65/IP67/IP6K9K Other coil connectors on request

#### Variation (depending on connector)

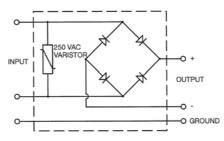
omission = Standard

01, 02... = e. g. suppressor diode, different cable lengths, etc... others on request

#### Typification

32-1329 = main measures (Height, inner diameter, outer diameter)

The model code only serves for your information, available products see chart.



Codes and corresponding Part No's.							
Nominal	Coil	Resis-	Nominal		Part No's for connector		
voltage	power	tance	current		DIN	leadwires	Deutsch
(Volt)	(Watt)	(Ohm)	(Amp.)		(G)	(L)	(N)
12 V DC	12	12,2	0,98		2610160	2610151	2610149
				with suppressor diode	2610268	2610267	2610210
24 V DC	12	48,7	0,49		2610161	2610162	2610150
				with suppressor diode	2610269	2610266	2610265
115 V AC*	12	980	0,11		2610156*		
230 V AC*	12	3700	0,06		2610159*		

•If using AC voltage a plug (Part no. 2600582) with rectifier is necessary Other connectors on request.

#### Annotation

The technical information in this brochure are relating to the operating conditions and applications. At deviant applications and/or operating conditions please contact the technical dept.

Technical information are subject to technical modifications.

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Coil 12 DG01 - 32 -1329