

**HD** TYPE OF THE VALVE DRIVE SYSTEM FOR THE COMPLEX VALVE TASKS AT DIFFICULT WORKING CONDITIONS. .  
RELIABLE HYDRAULIC EMERGENCY DRIVE BY HYDRAULIC HAND PUMP OR ACCUMULATOR.

**MOST RELIABLE SHUT-OFF FUNCTION FOR REALIZATION OF THE HIGH INTEGRITY PRESSURE PROTECTION SYSTEMS-HIPPS**

STANDARD DESIGN OF HYDRAULIC DRIVE DIRECTLY WITH HYDRAULIC OIL PRESSURE UP TO 250 BAR.

FOR THE DRIVE USED HYDRAULIC PRESSURE OIL, WATER OR WATER EMULSIONS, NITROGEN, HIGH PRESSURE OF COMPRESSED AIR.

**EMERGENCY DRIVE IS REALIZED HYDRAULICALLY.**

**INTERNAL DEVICE (LINEAR TRANSMITTER 4-20 MA) FOR CONTROL OF VALVE OPENNESS - FEEDBACK SYSTEM TYPE INCP**

DN 200\_PN16 EXAMPLE OF HYREVAL® FLOW CONTROL VALVE TO WATER APPLICATION,



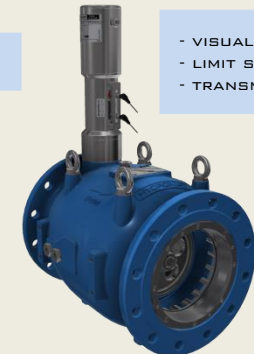
**EXTERNAL DEVICE FOR CONTROL OF VALVE OPENNESS - FEEDBACK SYSTEM TYPE EXCP.VS DN 200\_PN16** EXAMPLE OF HYREVAL® FLOW CONTROL VALVE TO WATER APPLICATION,



ONLY VISUAL CONTROL



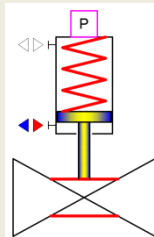
VISUAL CONTROL & LIMIT SWITCH'S



- VISUAL CONTROL  
- LIMIT SWITCH'S  
- TRANSMITTER 4-20 MA

**TYPE HD.SA.FTC - SINGLE ACTING FAIL TO CLOSE**

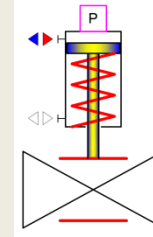
- OPENING DIRECTION BY HYDRAULIC OIL PRESSURE
- CLOSING WITH SPRING OR ACCUMULATOR → **FAIL TO CLOSE**
- EMERGENCY DRIVE TO OPEN POSITION PERFORMED BY THE HYDRAULIC HAND PUMP OR ACCUMULATOR



SIMPLIFIED SYMBOL  
**HD.SA.FTC - FAIL TO CLOSE**

**TYPE HD.SA.FTO - SINGLE ACTING FAIL TO OPEN**

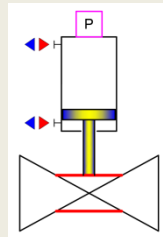
- CLOSING DIRECTION BY HYDRAULIC OIL PRESSURE
- OPENING WITH ACCUMULATOR → **FAIL TO OPEN**
- EMERGENCY DRIVE TO CLOSE POSITION PERFORMED BY THE HYDRAULIC HAND PUMP OR ACCUMULATOR



SIMPLIFIED SYMBOL  
**HD.SA.FTO - FAIL TO OPEN**

**TYPE HD.DA - DOUBLE ACTING HYDRAULIC SYSTEM**

- CLOSING AND OPENING DIRECTIONS BY HYDRAULIC OIL PRESSURE
- EMERGENCY DRIVE TO OPEN AND CLOSE POSITION PERFORMED BY HYDRAULIC HAND PUMP OR ACCUMULATOR



SIMPLIFIED SYMBOL  
**HD.DA - DOUBLE ACTING**

# HYDRAULIC DRIVE

FULL PACKAGE TO ACTIVE CONTROL – LOCAL AND REMOTE

**HD**  
TYPE

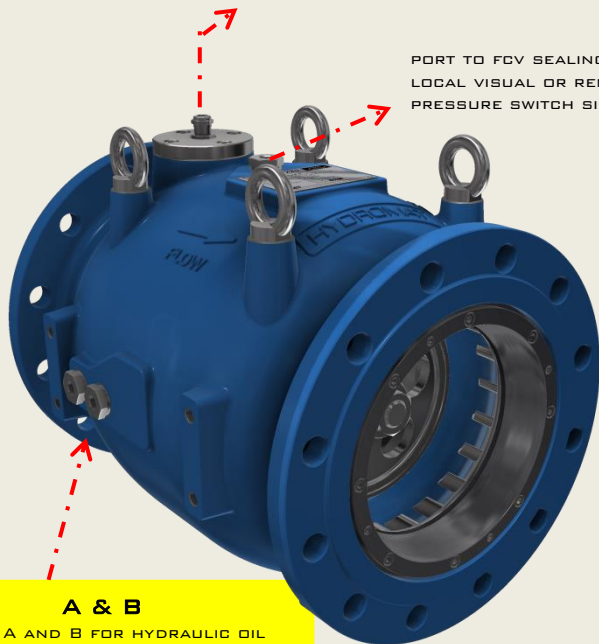
## ELECTRO-HYDRAULIC CONTROL CABINET

STANDARD DIMENSION OF ENCLOSURE CABINET

1 000 x 700 x 300 MM

SIGNAL OF VALVE OPENNESS (FEEDBACK 4-20 MA)

PORT TO FCV SEALING CONTROL,  
LOCAL VISUAL OR REMOTE BY  
PRESSURE SWITCH SIGNAL



**A & B**

PORTS A AND B FOR HYDRAULIC OIL  
PRESSURE FROM HYDRAULIC POWER UNIT

ELECTRO BOX WITH  
LOCAL CONTROL PANEL  
AND TOUCH SCREEN

OIL ACCUMULATOR TO VALVE NORMAL  
AND EMERGENCY OPERATING – FAIL TO  
CLOSE, FAIL TO OPEN

HYDRAULIC CONTROL BLOCK EQUIPPED  
WITH:

- HYDRAULIC PROPORTIONAL DIRECTIONAL SPOOL VALVE
- HYDRAULIC DIRECTIONAL VALVE 3/4 TO FCV MANUAL OPERATING
- PRESSURE SWITCHES TO MAINTENANCE OF ACCUMULATOR OIL PRESSURE

COMPACT ELECTRO-  
HYDRAULIC POWER UNIT,  
TYPE CEHPU  
WITH HYDRAULIC HAND  
PUMP HHP

THE MOST COMMONLY USED CONTROL SIGNALS:  
1. INPUT SIGNAL FROM DCS (THE VALVE SET POINT) 4-20 MA  
2. OUTPUT SIGNAL FROM VALVE (FEEDBACK) 4-20 MA

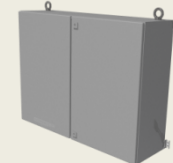
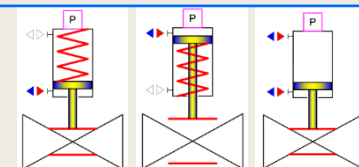
ELECTRIC SUPPLY 500 W, 50 HZ, OPTION:  
- 400 VAC, 3 PH  
- 230 VAC, 1 PH

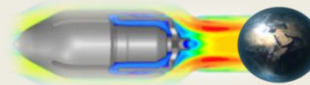
**A & B**

PORTS A AND B FOR HYDRAULIC OIL  
PRESSURE FROM HYDRAULIC POWER UNIT

NOTE: STANDARD DISTANCE BETWEEN CONTROL VALVE AND  
ELECTRO-CONTROL CABINET IS 5 METERS.  
OTHER DISTANCE ON REQUEST.

SIMPLIFIED SYMBOL TO  
VALVE OPERATING  
- FAIL TO CLOSE  
- FAIL TO OPEN  
- DOUBLE ACTING





THE SOURCES OF PRESSURED HYDRAULIC OIL OR OTHER TYPES OF CONTROL FLUIDS TO HYDRAULIC DRIVE OF HYREVAL® VALVE TYPE HD

### 1. HYDROMAT® DESIGN OF COMPACT ELECTRO-HYDRAULIC POWER UNIT TYPE CEHPU

THE MAIN CHARACTERISTIC:

- DRIVE BASED ON HYDRAULIC OIL PRESSURE, WATER OR WATER EMULSIONS UP TO 250 BAR
- SIMPLE DRIVE OF ONE OR MORE VALVES
- RELIABLE FUNCTION OF AUTOMATIC EMERGENCY CLOSING OR OPENING BY SPRING OR ACCUMULATOR
- MANUAL OVERRIDE WITH HYDRAULIC HAND PUMP TO OPEN/CLOSE
- OTHER DESIGN TO VALVE OPERATING ON REQUEST
- EQUIPMENT FOR THE MOST STRINGENT ATEX REGULATIONS

### 2. HYDROMAT® DESIGN OF AIR-HYDRAULIC POWER UNIT TYPE AHPU

THE MAIN CHARACTERISTIC:

- INPUT COMPRESSED AIR 4-10 BAR → OUTPUT HYDRAULIC OIL, WATER OR WATER EMULSIONS UP TO 250 BAR
- ON REQUEST DESIGN TO DRIVE ONE OR MULTIPLE VALVE OR SPECIAL VALVE FUNCTIONS
- RELIABLE FUNCTION OF AUTOMATIC EMERGENCY CLOSING OR OPENING BY SPRING OR ACCUMULATOR ON HYDRAULIC SIDE OR SIMPLE OTHERWISE BY TANK WITH COMPRESSED AIR ON AIR SIDE
- COMPACT CONSTRUCTION STYLE, EASY TO OPERATE
- MANUAL OVERRIDE WITH HYDRAULIC HAND PUMP TO OPEN/CLOSE
- EQUIPMENT FOR THE MOST STRINGENT ATEX REGULATIONS

### 3. CUSTOMER SOLUTION OF HYDRAULIC POWER UNIT

CUSTOMER HIMSELF SOLVED SOURCE OF PRESSURIZED HYDRAULIC OIL OR OTHERS CONTROL FLUIDS TO DRIVE OF VALVE HYREVAL®

ON THE CUSTOMER REQUEST FOR ELECTRIC CONTROL HYDROMAT® OFFER TWO BASE DESIGN OF ELECTRIC CONTROL CABINETS:

- CONNECTION BOX WITH SIMPLE LOCAL CONTROL PANEL TYPE **HD.EC1**
- ELECTRO CONTROL CABINET WITH LOCAL CONTROL PANEL TYPE **HD.EC2**



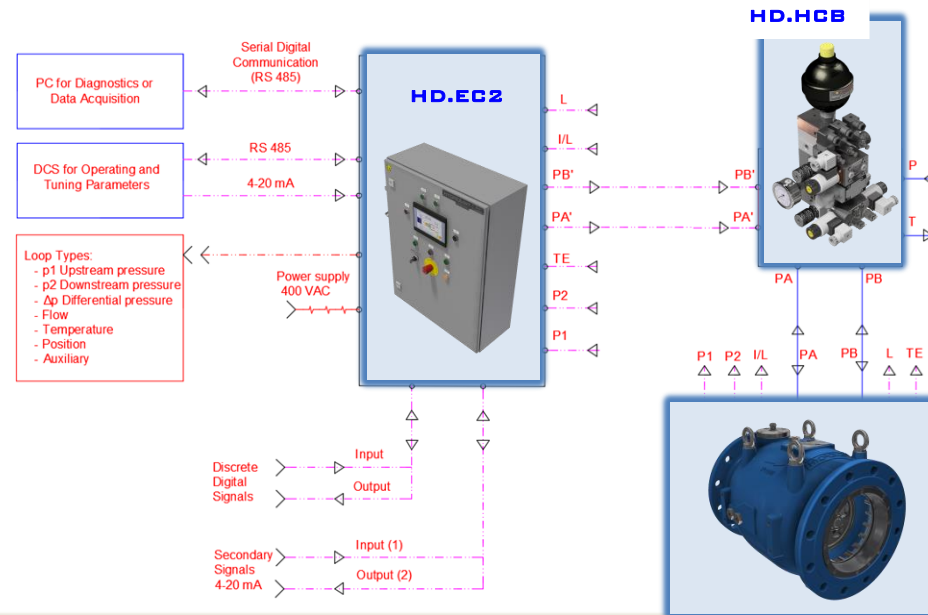
## ELECTRO-HYDRAULIC & AIR-HYDRAULIC DRIVES

BASIC PRINCIPLES OF HYDRAULIC DRIVE AND CONTROL

### HYDRAULIC CONTROL BLOCK

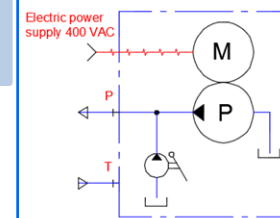
STANDARD SOLUTION OF HYDRAULIC CONTROL BLOCK TYPE **HD.HCB** BASED ON HYDROMAT® SYSTEM DESIGN WITH DIRECTIONAL HYDRAULIC VALVE OR PROPORTIONAL DIRECTIONAL SPOOL VALVE.

SYSTEM PROVIDES THE MOST RELIABLE CONTROL, EMERGENCY AND OTHERS SAFETY FUNCTIONS.



### DRIVES FOR THE HARDEST WORKING CONDITIONS

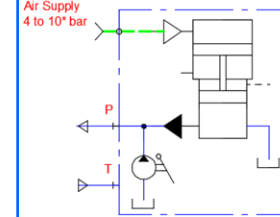
#### ELECTRO-HYDRAULIC POWER UNIT



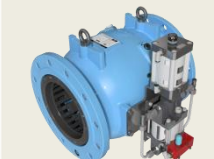
DRIVE WITH COMPACT ELECTRO-HYDRAULIC POWER UNIT TYPE **CEHPU**



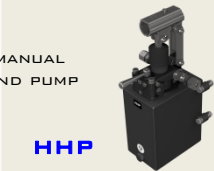
#### AIR-HYDRAULIC POWER UNIT



DRIVE WITH AIR-HYDRAULIC POWER UNIT TYPE **AHPU**



MAIN AND EMERGENCY DRIVE (MANUAL OVERRIDE) WITH HYDRAULIC HAND PUMP TO OPEN AND CLOSE



THE MOST COMMONLY USED CONTROL SIGNALS:  
1. INPUT SIGNAL FROM DCS (THE VALVE SET POINT) 4-20 MA  
2. OUTPUT SIGNAL FROM VALVE (FEEDBACK) 4-20 MA

