BUCHER
emhart glass

Technical News Bulletin

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Design change of FPS Valves

1. Introduction

The Emhart Glass FPS technology has become a well accepted option to increase the plunger performance on IS and AIS machines. For the NIS these feature is the standard. FPS for Plunger Up is used to control the Plunger Up pressure for precise parison forming which is a key for Narrow Neck Press & Blow and Press & Blow production. A high flow FPS valve controls the pressure for the counter blow in Blow & Blow production and the Plunger Cooling pressure in Narrow Neck Press & Blow as well as Press & Blow production.

With the FlexIS Process Control System 4 different pressures can be applied within one cycle. This allows high flexibility and accuracy in the forming process. All data a stored with the job file which ease the reproducibility and reduces the work out time after job changes.

2. Features

In the course of the adaptation to the latest developments and considering continuous improvements the FPS valves used for Plunger Up of the nominal size 7 (ED07) and for Counter Blow/Plunger Cooling of the nominal size 12 (ED12) have been modified.

The most noticeable differences compared with the previous design are the space-saving, smaller outside dimensions as well as the generally provided M12-plugs for the connection of the supply voltage and the signals. With this change all your valves have now plug connectors on the valve. Adapter cables for various combinations of plugs are available.

The pneumatic interface remained unchanged, so that an exchange of older version can be done without problems.

The new valves will replace the existing design. The function of the valve and the pressure control behaviour is identical. It is recommended/required to exchange the cables between the valve and the connector box in the blank side platform.

Electronics
The electronics are now digital and therefore elements like potentiometer, dip-switch or link plugs have been completely eliminated. The basic setup and all adjustments of the valves are now affected via a digital interface. The FPS valves supplied for Emhart Glass are specially calibrated. There is no need for recalibration or readjustment at the customer site.

3. Specification

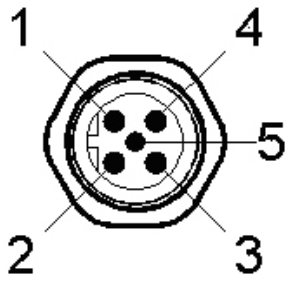
Air requirements:

Compressed air purity class DIN ISO 8573-1

Solid impurities:	ISO class 4
Water content:	ISO class 4
Oil content:	ISO class 3
Supply pressure:	max. 5 bar (72.5psi)
Temperature	10°-55°C
Device temperature:	max. 70°C

Pin assignment

Plug XPC:	M12, male, 5-pole
Pin 1	24V
Pin 2	set value (+): current 0/4-20mA
Pin 3	0 V
Pin 4	actual values (+): current 0/4-20mA
Pin 5	FE



Please note that to replace ND valves with a ED version on a the standalone version the two 0V connections of the ND type must be bridged as the ND version uses only a common 0V.

4. Components

Overview Valves:

The new ED07 (59-90311) replaces the two existing ND07 (SE-12552-1 and 59-90272). The ND07 valves (SE-12552-1 and 59-90272) are no longer available

ED07			
Design	Size	Connector Type	Part Number
old	ND07	Spade Terminal	59-90272
old	ND07	Harting	SE 12552-1
new	ED07	M12	59-90311

The new ED12 (59-90319) replaces the two existing ND 12 (SE-12552-2 and 59-90281). The ND12 valves (SE-12552-2 and 59-90281) are no longer available.

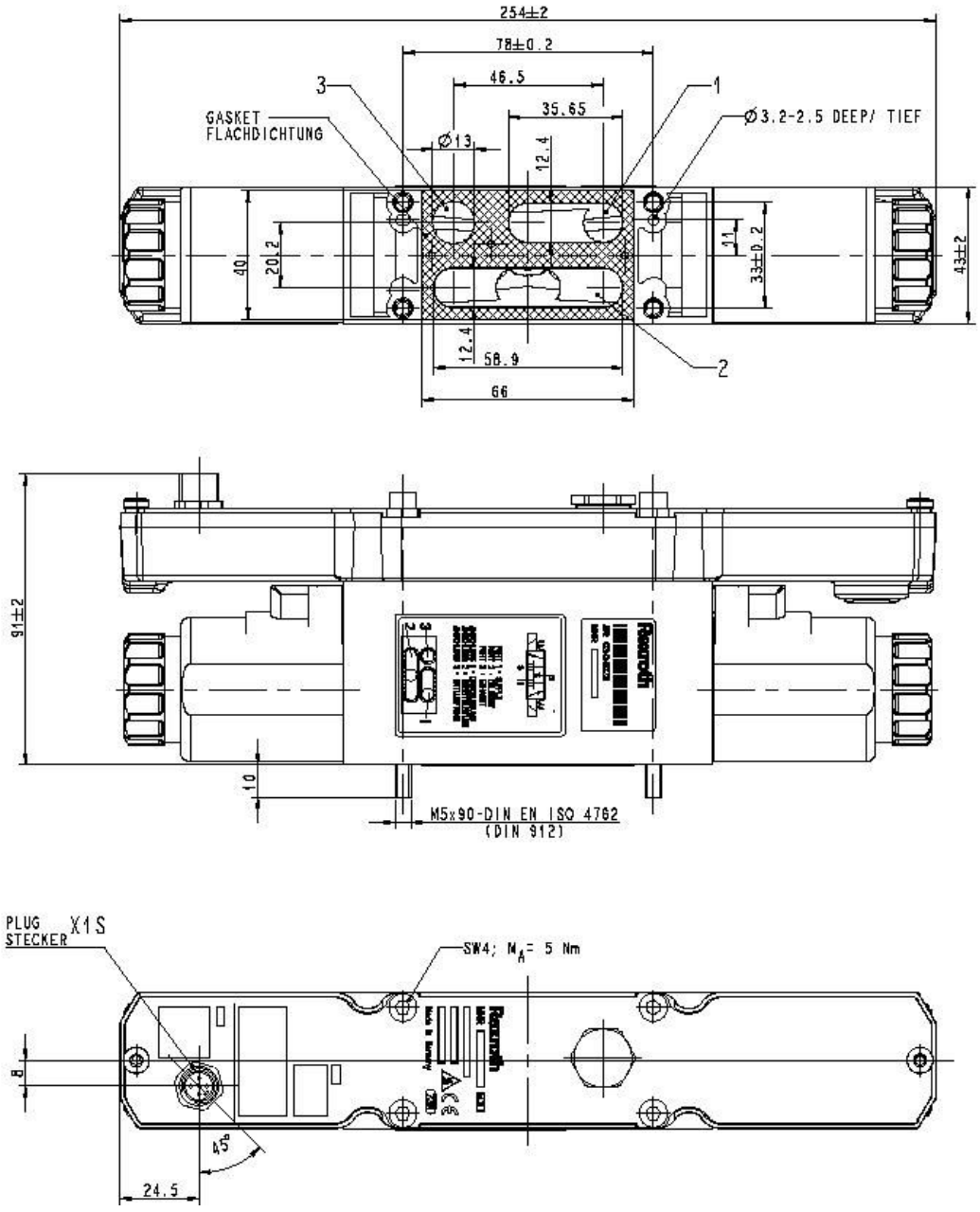
ED12			
Design	Size	Connector Type	Part Number
old	ND12	Spade Terminal	59-90281
old	ND12	Harting	SE-12552-2
new	ED12	M12	59-90319

Overview Cables:

Calbles		
Connector 1	Connector 2	Part Number
M12 female 90 deg.	Spade Terminal	59-90401
M12 female 90 deg.	M12 male	59-90402
M12 female 90 straight	Spade Terminal	59-90403
M12 female 90 deg.	Harting male	59-90404

It is recommended to replace the existing cables to the connector box in the blank side platform with the cable M12 female 90 deg – Spade Terminal (59-90401)

Dimensions and Interface ED07



Dimensions and Interface ED12