

# Masoneilan

a Baker Hughes business

## Model 78-80H & 08-80H Transfer Valves

Instruction Manual (Rev. F)



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## Safety Information

### Important - Please read before installation

These instructions contain **DANGER**, **WARNING**, and **CAUTION** labels, where necessary, to alert you to safety related or other important information. Read the instructions carefully **before** installing and maintaining your control valve. **DANGER** and **WARNING** hazards are related to personal injury. **CAUTION** hazards involve equipment or property damage. Operation of damaged equipment can, under certain operational conditions, result in degraded process system performance that can lead to injury or death. Total compliance with all **DANGER**, **WARNING**, and **CAUTION** notices is required for safe operation.



This is the safety alert symbol. It alerts you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in serious injury.



Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.



When used without the safety alert symbol, indicates a potentially hazardous situation which, if not avoided, could result in property damage.

**Note: Indicates important facts and conditions.**

## About this Manual

- The information in this manual is subject to change without prior notice.
- The information contained in this manual, in whole or part, shall not be transcribed or copied without Baker Hughes's written permission.
- Please report any errors or questions about the information in this manual to your local supplier.
- These instructions are written specifically for the **Masoneilan™** Model 78-80S and Model 08-80S transfer valve, and do not apply for other valves outside of this product line.

## Warranty

Items sold by Baker Hughes are warranted to be free from defects in materials and workmanship for a period of one year from the date of shipment provided said items are used according to Baker Hughes recommended usages. Baker Hughes reserves the right to discontinue manufacture of any product or change product materials, design or specifications without notice.

### Note - prior to installation:

- **The valve must be installed, put into service and maintained by qualified and competent professionals who have undergone suitable training.**
- **All surrounding pipelines must be thoroughly flushed to ensure all entrained debris has been removed from the system.**
- **Under certain operating conditions, the use of damaged equipment could cause a degradation of the performance of the system which may lead to personal injury or death.**
- **Changes to specifications, structure, and components used may not lead to the revision of this manual unless such changes affect the function and performance of the product.**

# 1. Overview

The **Model 78-80H** is a transfer valve combining a pilot valve of the floating ball type and three-port valve into one unit and is a high-capacity three-way transfer valve of a set pressure regulating type. The other **model 08-80H**, is the same as the 78-80H except that a pilot valve is not combined and is the so-called three-way transfer valve. If several 78-80Hs are needed, one 78-80H can be installed, connecting 08-80Hs to it by mating the pilot outlet pressure (“SIG.OUT”) on the 78-80H to “SIG” on the 08-80H to simplify piping and achieve transfer.

The structures of these models are shown on pages 8 and 9.

# 2. Specifications

Item		Standard	Option
Maximum Operating Pressure	Body	1.72 MPa	—
	Signal	1.03 MPa	—
Set Pressure		100~700 kPa	—
Hysteresis		34 kPa or less	—
Cv Value	IN→OUT	4.5	—
	OUT→EXH.	5.0	—
Connection	IN, OUT, EXH. Ports	Rc1/2	NPT1/2
	SIGNAL Port	Rc1/4	NPT1/4
Operating Temperature Range		-30~+83°C	0~100°C
Housing Material		Aluminum Alloy	316L Stainless Steel <sup>(1)</sup>

1. When the housing material is 316L stainless steels, the connections are NPT.

# 3. Certifications

This instrument is certified in:

- Azerbaijan (AzSERTCENTER)
- Armenia
- Belarus
- Kazakhstan
- Russian Federation (CU-TR Ex)
- Uzbekistan (UZSTANDART)
- China (China Ex)
- and is also **ATEX compliant**.

# 4. Numbering System

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>			
	<b>8</b>	-	<b>8</b>	<b>0</b>	<b>H</b>	Suffix A	Suffix B

1 <sup>st</sup> - 4 <sup>th</sup>		5 <sup>th</sup>		Suffix A		Suffix B	
Product		Capacity				Housing Material	
78-80	Set Pressure Regulating Three-Way Transfer Valve	H	High Capacity	Blank	-30~83°C	Blank	Aluminum Alloy
08-80	Three-Way Transfer Valve			-H	0~100°C	-316L	316L Stainless Steel <sup>(1)</sup>

## 5. Mounting

Clean all the pipes before mounting the valve and completely remove dust, scale and other foreign matter. Mount the transfer valve as close to the actuator as possible and let air flow toward the IN and OUT marks located on the lower side of the body.

Two EXH ports are provided. Use one EXH port and put a blind plug in the other unused port. When using the valve as a lock-up valve, put a blind plug each in the two EXH ports.

Two air connection ports to the pilot part are provided on the 78-80H, one being marked SIG and the other, SIG OUT. Connect the signal pressure to the port marked SIG. Use SIG.OUT for sending signal to the 08-80H when it is also mounted.

The transfer valve functions to cut off IN and to connect OUT to EXH when the signal pressure lowers below the set pressure or is reduced to zero.

### **CAUTION**

**Do not use signal pressure at air pressure exceeding 1.03Mpa (10.5kgf/cm<sup>2</sup>).**

**Feeding signal pressure from near the IN side of the body will cause fluctuations in signal and air pressures due to the large air valve capacity. This may cause hunting.**

## 6. Adjustment

The necessary settings of the transfer valve are generally performed at the factory and adjustment of it is not required. If, however, the setting pressure needs to be adjusted, make adjustment as follows:

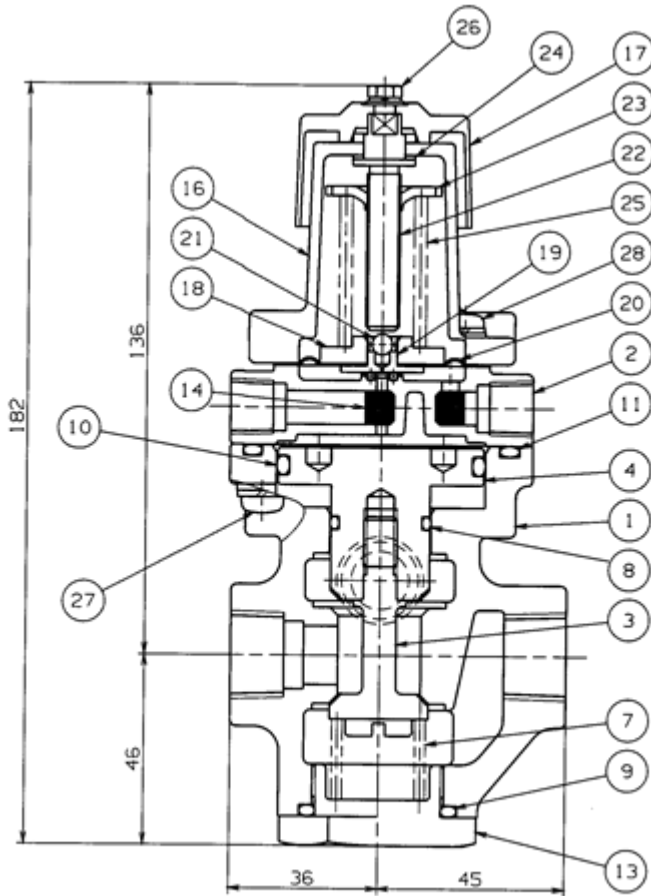
- a) Loosen the lock screw (26) and turn the adjust knob (17) counterclockwise to release the compression of the spring (25).
- b) Turn the adjust knob (17) one or two turns clockwise to tighten it and to slightly compress the spring (25).
- c) Connect air pressure to "IN" marked on the body to check whether the body is open or closed. Then connect the pressure gauge and pressure reducing valve to the signal pressure connection port SIG.
- d) Apply supply air pressure and set the air pressure to SIG at specified pressure by operating the pressure reducing valve while watching air pressure to SIG on the pressure gauge.
- e) Turn the adjust knob (17) clockwise until air pressure no longer leaks through "OUT" marked on the body.
- f) This will cut off IN, and OUT and EXH will open in the transfer valve.
- g) Lastly, fasten the lock screw (26) and fix it.

### **CAUTION**

**The ball (21) temporarily floats to transfer the pilot part and the valve emits a light beat tone when the set and signal pressures become the same. This is not an anomaly. The beating sound will stop when the transfer ends.**

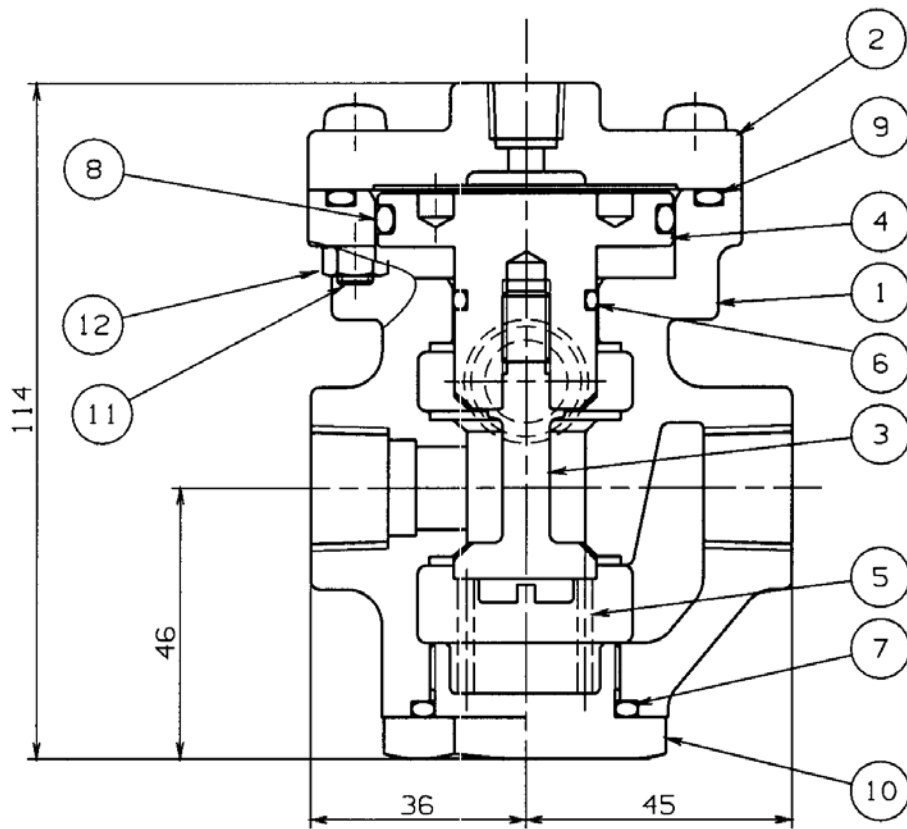
## 7. Maintenance

Rubber is used in various parts of the transfer valve. Periodical exchange of this rubber every five years is recommended. Your valve will be checked and repaired at our factory if a check or a repair becomes necessary. Contact our agent or sales office for a check or a repair.



**Transfer Valve Model 78-80H**  
**Sectional Drawing**  
**(Standard Specifications)**

Part N°	Part Name	Material	Qty
1	Body	AC 4B-F CHROMATE	1
2	Housing	ADC 12/CHROMATE	1
3	Plug	SUS303/NBR	1
4	Piston	A2017BE-T6 CHROMATE/NBR	1
7	Spring	SUS304-WPB	1
8	O-Ring	NBR	1
9	O-Ring	NBR	1
10	O-Ring	NBR	1
11	O-Ring	NBR	1
13	Bottom Cap	SUS303	1
14	Filter	SUS304	2
16	Spring Case	ADC12/CHROMATE	1
17	Adjust Knob	VALOX420	1
18	Diaphragm Plate	SUS303	1
19	Exhaust Orifice	SUS303	1
20	Diaphragm	NBR/DUCRON	1
21	Ball	SUS440C	1
22	Adjust Screw	SUS303	1
23	Spring Button	SPCC-SD Za-C PLATE	1
24	Spacer	VALOX420	1
25	Spring	SWP B	1
26	Lock Screw	SUS304	1
27	Screw	SUS304	4
28	Screw	SUS304	4



**Transfer Valve Model 08-80S**  
**Sectional Drawing**  
**(Standard Specifications)**

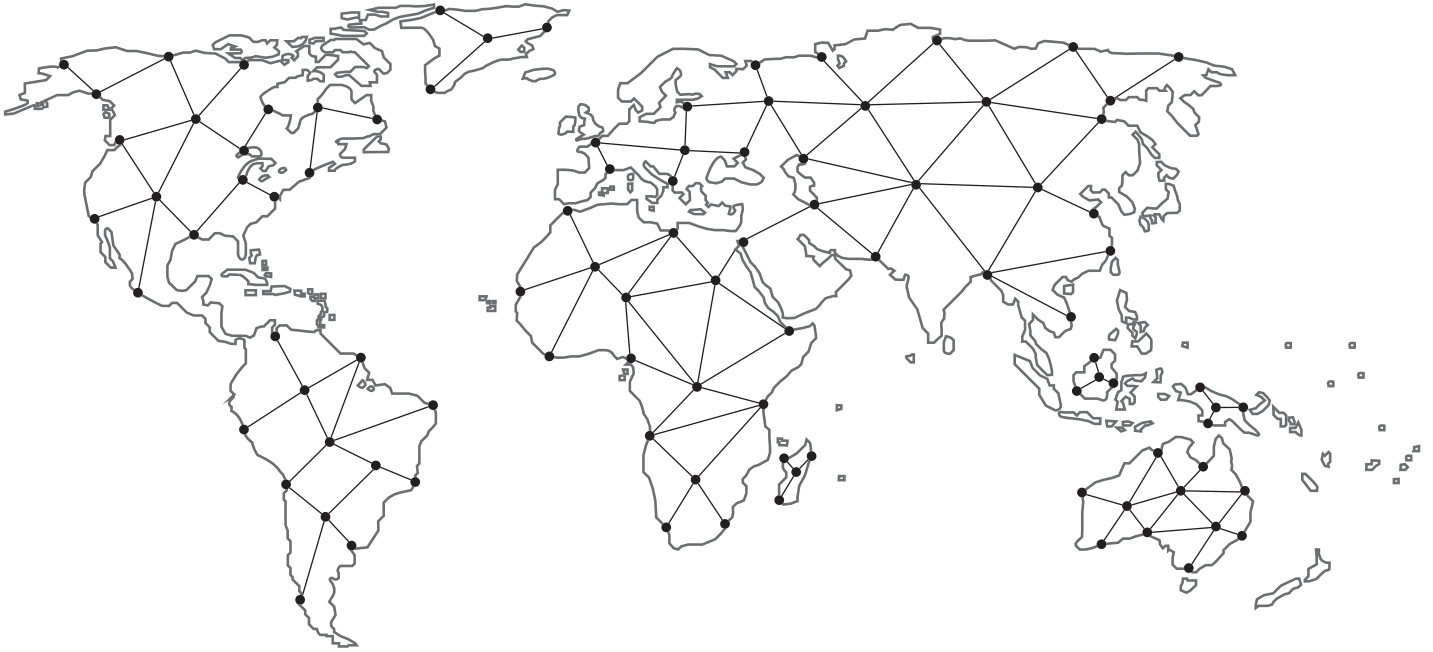
Part N°	Part Name	Material	Qty
1	Body	AC2A-F CHROMATE	1
2	Head Cap	AC2A-F CHROMATE	1
3	Plug	SUS303/NBR	1
4	Piston	A2017BE-T6 CHROMATE/NBR	1
5	Spring	SUS304-WPB	1
6	O-Ring	NBR	1
7	O-Ring	NBR	1
8	O-Ring	NBR	1
9	O-Ring	NBR	1
10	Bottom Cap	SUS303	1
11	Screw	SUS304	4
12	Nut	SUS304	4





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