



Exploration & Production

GENERAL SPECIFICATION

INSTRUMENTATION

GS INS 171

**Hand Valve with 2 limit switches
Standard function
- HV -**

00	11/03	First issue
Rev.	Date	Notes



Contents

1. Scope	3
2. Reference documents.....	3
3. General description of functions	4
3.1 List of main functions	4
4. Description of interface	5
4.1 General description.....	5
5. Detailed description of functions	5
5.1 Modes and commands.....	5
5.2 Standard function functional behaviour	6
6. Representation and animation description (HMI).....	6
6.1 Events and values to be recorded.....	6
6.2 Alarm management.....	7
6.3 Control display	7



1. Scope

The purpose of this document is to define the Standard Function for a Hand Valve (HV) with 2 limit switches.

In order to assist in understanding, the document should be read in conjunction with **GS INS 150**, Design Methods for System Configuration Standard Functions.

Hand valves are operated, only manually on site. These valves are not concerned by safety functionality.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	

Regulations

Reference	Title
Not applicable	

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
Not applicable	



Total General Specifications

Reference	Title
GS INS 150	Design Method for System Configuration Standard Functions

3. General description of functions

3.1 List of main functions

- Maintenance inhibit
- Field inputs (DI), status and discrepancy
- Input fault detection

4. Description of interface

4.1 General description

INPUTS				OUTPUTS		
Field	HMI	Internal		Internal	HMI	Field
			Standard Function - HV -			
		Maintenance inhibit command				
				Status (open/closed)		
				Discrepancy Status		Alm
				Operating in progress Status		Alm
				Input fault status		Alm
				Maintenance inhibit status		
		Open limit switch (DI)				
		Closed limit switch (DI)				
			Alm = Alarm			

4.1.1 Specific description of field interface

Corresponding field interfaces are :

- HZH (1 DI) : open limit switch : **1 = Open**
- HZL (1 DI) : closed limit switch: **1 = Close**

5. Detailed description of functions

5.1 Modes and commands

5.1.1 Specific description

5.1.1.1 Maintenance inhibit

Maintenance inhibit command is available to the operator in maintenance access level

On maintenance inhibit status :

- Limit switches are no longer considered with the internal Open/Closed status handling
- Discrepancy is no longer active
- Controlled part (valve body) is red steady if open and closed limit switches have the same status; else the open or closed or operating in progress status will be displayed as defined below.

Maintenance inhibit status is active if maintenance inhibit command is set

5.2 Standard function functional behaviour

5.2.1 Status :

5.2.1.1 Open status :

HMI open status is active if Open limit switch is active and Closed limit switch is not active

Internal open status is active if HMI open status or maintenance inhibit status are active

5.2.1.2 Closed status :

HMI close status is active if Open limit switch is not active and Closed limit switch is active

Internal close status is active if HMI close status or maintenance inhibit status are active

5.2.2 Discrepancy status :

Discrepancy status is active if both Open and Close limit switches are active and maintenance inhibit status is not active

5.2.3 Operating in progress Status :

Operating in progress Status is active if both Open and Close limit switches are not active

5.2.4 Input fault status :

To report a hardware fault related to an associated DI card (field inputs)

6. Representation and animation description (HMI)

6.1 Events and values to be recorded

6.1.1 Events

- Maintenance inhibit command
- Operating in progress status
- Discrepancy status
- Input fault status

6.2 Alarm management

Alarm Description	Priority
Operating in progress status	Level 1
Discrepancy status	Level 1
Input fault status	Level 1

6.3 Control display

The descriptions below give examples of valve representation animations. However, they may be amended dependant on the DCS features.

6.3.1 HV (manual valve) representation :

Frames

Controlled part



HVxxxx ← Hidden label

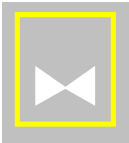
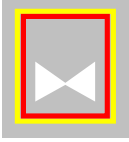
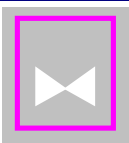
6.3.2 Miscellaneous

- HVxxxx instrument label appears on operator request (soft key)
- HVxxxx instrument label is used as target area for maintenance inhibit command

6.3.3 Animation of the symbol (controlled part)

Display description	Display	Symbol
Valve closed or Communication or system fault		White
Valve operating in progress (after valve closed status) prior to acknowledgement		Fluid flashing
Valve open		Fluid
Valve discrepancy or operating in progress (after valve open status) prior to acknowledgement		Red flashing
Valve discrepancy after acknowledgement OR (both limit switches have the same status and maintenance inhibit active)		Red

6.3.4 Animation of the Frames

Display description	Display	Frames
Normal status		
Maintenance inhibit		External frame : Yellow
Input fault (and maintenance inhibit)		Internal frame : Red flashing before acknowledgement Red steady after acknowledgement
Communication or system fault		External frame : Magenta

The events which drive these frame displays may not be mutually exclusive. Therefore, the precedence on the display, from most to least important, shall be : magenta, white, blue, yellow