	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

PART 1 - INTRODUCTION


1.1 PURPOSE

- A. This section is intended to define the general installation and minimum product requirements for hydronic and steam valves.

PART 2 - GENERAL DESIGN REQUIREMENTS

2.1 GENERAL VALVE REQUIREMENTS

- A. Refer to the most current version of the Service Index Standard 23 05 23 01 for approved valve types.
- B. Valve Pressure and Temperature Ratings: Not less than indicated and as required for system operating, maximum, and test pressures and temperatures.
- C. Manual Valve Sizes: Same as upstream piping unless otherwise indicated.
- D. Valve Actuator Types:
 - 1. Gear Actuator: For quarter-turn valves with wheels NPS 6 and larger.
 - 2. Hand wheel: Fastened to valve stem, for valves other than quarter turn.
 - 3. Hand lever: For quarter-turn valves NPS 6 and smaller.
 - 4. Wrench: For plug valves with square heads. Furnish Owner with 1 wrench for every plug valve, for each size square plug-valve head.
 - 5. Chain wheel: Device for attachment to valve hand wheel, stem, or other actuator; for all valves installed 6 feet or higher above finished floor extend chains to an elevation of 5 feet above finished floor. Chain shall be equipped with clasp and hook to secure chain as not to be in the path of egress.
- E. Valves in Insulated Piping: Provide valve handle stem extensions and the following features:
 - 1. Gate Valves: With rising stem.
 - 2. Globe Valves: With rising stem.
 - 3. Ball Valves: With extended operating handle of non-thermal-conductive material, and protective sleeve that allows operation of valve without breaking the vapor seal or disturbing insulation.
 - 4. Butterfly Valves: With extended neck.
- F. Valve-End Connections:
 - 1. Flanged: With flanges according to ASME B16.1 for iron valves.
 - 2. Grooved: With grooves according to AWWA C606.
 - 3. Solder Joint: With sockets according to ASME B16.18.
 - 4. Threaded: With threads according to ASME B1.20.1.
 - 5. Valve Bypass and Drain Connections: MSS SP-45.
- G. By-pass and Drain Connections: Isolation valves shall be provided with by-passes for Pressure Reducing Stations (PRS) and other systems as directed by Yale. Comply with MSS SP-45 bypass and drain connections.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

H. Wet Tap/ Hot Tap Valves

1. Valves shall conform to the requirements of this and other applicable university standards.

2.2 MANUAL VALVE DESIGNATION

- A. This section includes the valve identification code, and Standard used in the Service Index.

1. Table 1: Valve Identification


Valve Designation	Valve Type	Standard
BA	Ball	Ball Valves
BF	Butterfly	Butterfly Valves
GA	Gate	Gate Valves
PL	Plug	Plug Valves
GL	Globe	Globe Valves
CK	Check	Check Valves

2.3 DESIGN DOCUMENT REQUIREMENTS


- A. The design drawings shall include a riser and flow diagram and details of system specialties for all HVAC systems. Collectively, the drawing elements shall capture and illustrate all valve applications including shut-off, balancing, bypass, control, direction flow control, and drain valves.
- B. The riser flow diagram shall include valve tags as identified in the university Service Index and applicable Valve Standard.
- C. Standard details, and plan view drawings shall include valves, and specialty items. Valves and specialty items shall be tagged per university Service Index.

2.4 DESIGN SYSTEM REQUIREMENTS:

- A. Where new piping connections are indicated to be connected to existing system, the consultant shall confirm and indicate in the contract documents the location of existing isolation valves. If there are no existing isolation valves to connect the new piping to existing piping without requiring a pipe freeze, wet, or hot tap the consultant shall identify the scope of work in the contract documents. The scope of work shall identify the following
 1. Location of POC
 2. System and equipment interruption and coordination shutdowns.
 3. Type of tie-in procedure
 4. Work associated with recommissioning existing system

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

- B. Valve flange rating shall be compliant with system working, maximum and test pressure, per ANSI pressure classification tables.
- C. Within each building there shall be a building valve to isolate the service to the building.
- D. Isolation valves shall be provided at all pumps, tanks, reducing and automatic or mechanical flow control devices, radiation, coils and heat exchangers, and at all other apparatus requiring partial drainage of the system for periodic maintenance or inspection. The isolation valves shall be so located as to permit removal and/or service of the isolated equipment without draining complete or substantial portions of the system. Except where flanged valves are used, each connection to equipment shall be made with screwed or flanged union on the equipment side of the valve.
- E. Isolation valves shall be provided at supply and return branch takeoffs from the system supply and return mains. A main is considered to be either a riser from one level to another, or a horizontal run of pipe which supplies terminal type equipment such as but not limited to VAV RH coils, or Fine-Tube Radiation.
- F. Check valves will be installed where required to prevent backflow. Examples include but are not limited to locations where parallel pumps are installed and only one unit will operate. Check valves installed in the horizontal position shall be swing checks; valves installed in the vertical position shall be silent checks.
- G. Strainers shall have isolation valves up and down stream of strainer, to avoid draining the entire system or hydronic circuit the strainer serves.
- H. Provide blow-down valves at all strainers, and pipe to drain.
- I. Risers shall have drain valves installed at the low point to permit draining of supply and return risers without impacting other system risers. Drain valves shall have approved ball valve type hose bibs and caps.
- J. Provide balancing valves in the branch lines of water systems where hydraulic disparities between the branches may exist.
- K. Provide isolation valves of water piping leaving MER's to permit repairs of MER equipment without draining the entire system.
- L. High-performance butterfly valves shall be in the closed position during installation in the piping systems. Leave all valves in the closed position at the completion of the installation.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

2.5 MECHANICAL IDENTIFICATION REQUIREMENTS

- A. Manual and control valves shall be labeled with 1-1/2" (one- and one-half inch) brass tags bearing a letter to indicate the service and a number to indicate the valve. A permanent valve chart and system schematic diagram shall show the location of all valves. Valve Tags and schematic diagram names shall be coordinated with the final P&ID diagram.
- B. Valves shall have the name of the manufacturer and the nominal size of the valve on the body or bonnet or shown on a permanently attached plate in die-stamped letters.


2.6 INDUSTRY STANDARDS, CODE AND MANUFACTURE REQUIREMENTS

- A. Valves for potable water service shall comply with the most current version NSF 61, SDWA and shall not exceed the allowable content of lead.
- B. Valves and flanges shall comply with applicable ANSI, AWWA, API, ASTM, ASME, OSHA, and MSS requirements.
- C. Valve installation shall be in accordance with manufacturer's recommendations.

PART 3 - MINIMUM PRODUCT CRITERIA

3.1 PRODUCT DATA SHEETS

See following Product Data Sheets.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-1

Function: On/off

Service: Steam: Low, and Medium, Steam. Condensate Gravity and Pumped

Class: Class 600: ¼ inch to 2 inches

Pressure: Refer to Service Index and Piping Standard for minimum requirements

Temperature, F: 500 F, max

Vacuum: 29 in. Hg

Body: ASTM A216 WCB

Ball: 316 SS (ball and stem)

Trim: -

Seats: TFM

Seals: Graphite (Body)

Packing: NOVA

End connection: Threaded, Socket, Butt, Class 300 and 600 Flange (match to valve).

Body construction: Three piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Model Number</u>	<u>Size Range</u>
Sharpe	Series 84-46MG-“XX”-L	2” and below

Notes:

- 1.) Shall be full port ball valve
- 2.) Condensate valves shall accommodate schedule-80 pipe.
- 3.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-2

Function: On/off

Service: Chilled Water, Heating Hot Water, Condenser Water

Class: -

Pressure: 600 psi CWP, 150 psi SWP

Temperature, F: 400 F, max

Vacuum: 29 in. Hg

Body: Bronze, B584-C84400

Ball: 316 SS Ball and Stem

Trim: 316 SS

Seats: RPTFE

Seals: -

Packing: RPTFE

End connection: Threaded, Solder

Body construction: Two piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Model Number</u>	<u>Size Range (inches)</u>
Apollo	77F-140/240	2" and below
-	-	-
-	-	-

Notes:

4.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-3

Function: On/off

Service: Potable, Well, and Tempered Water

Pressure: 600 psi CWP, 150 psi SWP

Temperature, F: 400 F, max

Vacuum: 29 in. Hg

Body: Lead Free Brass, C27451

Ball & Stem: Stainless Steel Ball and Stem

Trim: Lead Free

Seats: RPTFE

Seals: -

Packing: RPTFE

End connection: NPT, Solder

Body construction: Two piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Apollo	77FLF-140/240	1/4 to 4 inches
-	-	-
-	-	-

Notes:

1. Full ported valves
2. Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-4

Function: On/off

Service: LP, Natural Gas, and Fuel Oil

Pressure: 600 psig CWP, 150 psig SWP, 250 psig LP Gas,

Temperature, F: -

Vacuum: -

Body: Bronze

Ball: Brass, Chrome Plated

Trim: -

Seats: RPTFE

Seals: RPTFE

Packing: -

End connection: NPT

Body construction: Two piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Apollo	80-100 Series	3” and less

Notes:

- 1.) UL Listed for LP and Natural Gas, 250 F Heated #6 Oil.
- 2.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-5

Function: On/off

Service: Medical Compressed Air, and Vacuum

Class: -

Pressure: 600 CWP, 150 psi SWP

Temperature, F: 350 F, max

Vacuum: 29 in. Hg

Body: Bronze, B584-C84400

Ball:

Trim: -

Seats: -

Seals: -

Stem Packing:

End connection: Solder

Body construction: Three piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Model Number</u>	<u>Size Range (inches)</u>
Apollo	82-200	¼ - 4
-	-	-
-	-	-

Notes:

- 1.) Full port ball valve.
- 2.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BA-6

Function: On/off

Service: Lab Compressed Air

Class: -

Pressure: 600 psi CWP, 150 psi SWP

Temperature, F: 350 F, max

Vacuum: 29 in. Hg

Body: Bronze, B584-C84400

Ball: -

Trim: -

Seats: -

Seals: -

Stem Packing: -

End connection: Solder

Body construction: Two piece


Trim construction: N/A

Accepted Models:

<u>Manufacturer</u>	<u>Model Number</u>	<u>Size Range (inches)</u>
Apollo	77-200	¼ - 2-1/2
-	-	-
-	-	-

Notes:

- 1.) Full port ball valve.
- 2.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: BF-1

Valve Type: Butterfly

Function: Shutoff

Service: Steam and Condensate

Design Code: API 609, ASME B16.34

Size: 2.5” and above

Pressure Class: 150

Body: ASTM A216 WCB Carbon Steel
P265GH (ASTM A516 Gr. 60) Carbon Steel

Stem: 410 Stainless Steel
431 Stainless Steel

Disc: ASTM A105 Carbon Steel
A216 WCB Carbon Steel
P265GH (ASTM A516 Gr. 60) Carbon Steel

Seat: Stellite Gr. 21
Inconel 625

Seal: 316Ti/Graphite or Duplex/Graphite


Packing: Graphite

End Connection: Lug/Class 150 RF Flange

Special Features: Gear Operator

Accepted Models:

Manufacturer	Pattern/Figure
Vanessa	30,000 MLAAC
Quadax	EQA1AX
Velan	Torque Seal M-0C

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: BF-2

Valve Type: Butterfly

Function: Shutoff

Service: Steam and Condensate

Design Code: API 609, ASME B16.34

Size: 2.5” and above

Pressure Class: 300

Body: ASTM A216 WCB Carbon Steel
P265GH (ASTM A516 Gr. 60) Carbon Steel

Stem: 410 Stainless Steel
431 Stainless Steel

Disc: ASTM A105 Carbon Steel
A216 WCB Carbon Steel
P265GH (ASTM A516 Gr. 60) Carbon Steel

Seat: Stellite Gr. 21
Inconel 625

Seal: 316Ti/Graphite or Duplex/Graphite


Packing: Graphite

End Connection: Lug/Class 300 RF Flange

Special Features: Gear Operator

Accepted Models:

Manufacturer	Pattern/Figure
Vanessa	30,000 MLBBC
Quadax	EQA1BX
Velan	Torque Seal M-1C

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: BF-3

Function: On/off

Service: Chilled Water, Heating Hot Water, Condenser Water

Pressure: ANSI Class 150

Temperature, F: 500, F max

Body: ASTM A216 WCB

Operator: 8 inch and under, lever operator with position latch for open, closed, and intermediate positions.
10 inch and over, manual enclosed gear operator.

Shaft: 316 SS or 17-4 PH SS

Disc: 316 SS

Seats: PTFE

Seals: PTFE

Packing: PTFE

End connection: ANSI Class 150


Body construction: Lug RF Flange

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Trim Codes</u>	<u>Size Range</u>
Jamesbury	815L	-	2-1/2" to 24"
Keystone	K-Lok 362		2-1/2" to 24"
DeZurik	BHP L1		2-1/2" to 24"

Notes:

- 1.) Valve shall be rated for bi-directional flow.
- 2.) Provide appurtenances as outlined in this standard.
- 3.) Valve shall be bubble tight rated.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: GA-1

Valve Type: Gate

Function: Shutoff

Service: Steam and Condensate: Low, Medium, & High Pressure

Design Code: API 602, ASME B16.34

Size: 2” and below

Pressure Class: 800

Body: ASTM A105 Carbon Steel

Bonnet: ASTM A105 Carbon Steel

Trim: 13% Cr 410 Stainless Steel

Disc Surface: 13% Cr 410 Stainless Steel

Seat Surface: CoCr HF (Stellite)

Packing: Graphite


End Connection: Thread or Socket Weld

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Vogt	12111	2” and less
Velan	2054B-02TY	-
Bonney Forge	HL11	
Sharpe	3483-4	-

Notes:

- 1.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: GA-2

Valve Type: Gate

Function: Shutoff

Service: Steam and Condensate

Design Code: API 600, ASME B16.34

Size: 2.5” and above

Pressure Class: 150

Body: ASTM A216 WCB Carbon Steel

Bonnet: ASTM A216 WCB Carbon Steel

Trim: 13% Cr 410 Stainless Steel

Disc Surface: 13% Cr 410 Stainless Steel


Seat: CoCr HF (Stellite)

Packing: Graphite

End Connection: ANSI Class 150 RF Flange

Accepted Models:


Manufacturer	Pattern/Figure
Crane	47XUF
Powell	1503FC8
Velan	0064C-02TY
Sharpe	35114

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: GA-3
 Valve Type: Gate
 Function: Shutoff
 Service: Steam and Condensate
 Design Code: API 600, ASME B16.34
 Size: 2.5” and above
 Pressure Class: 300
 Body: ASTM A216 WCB Carbon Steel
 Bonnet: ASTM A216 WCB Carbon Steel
 Trim: 13% Cr 410 Stainless Steel
 Disc Surface: 13% Cr 410 Stainless Steel
 Seat: CoCr HF (Stellite)
 Packing: Graphite
 End Connection: ANSI Class 300 RF Flange
 Accepted Models:

Manufacturer	Pattern/Figure
Crane	37XUF
Powell	3003FC8
Velan	1064C-02TY
Sharpe	35314

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: GA-4

Function: On/off

Service: Chilled Water, Glycol Chilled Water, Heating Hot Water

Design pressure: 230 psig at 300 degrees F

Body: ASTM A216 WCB, cast steel

Bonnet: ASTM A216 WCB, cast steel

Trim: API 8

Seats: -

Seals: -

Packing: Graphite

End connection: Class 150, RF, Butt Weld

Body construction: Bolted bonnet, OS&Y


Trim construction: Screwed

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Milwaukee	1550 / 1552	2" to 12"
-	-	-
-	-	-

Notes:

- 1.) Heating Hot Water not to exceed 240 F
- 2.) Glycol Chilled water, check fluid compatibility with valve material.
- 3.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: GA-5


Function: On/off

Service: Potable and Non-Potable Water

- A. Gate Valves 3 inches and smaller shall be: Class 125, 200 psi non-shock cold water working pressure, ANSI / NSF61 cast bronze body and bonnet, solid bronze wedge, copper silicon alloy rising stem, Teflon-impregnated packing with bronze packing nut, and with malleable iron hand wheel.
- B. Manufacturer and Model: (Soldered End Connections)
 - 1. Apollo Valve – Model 101S-LF
 - 2. Hammond Valve – Model UP635
 - 3. Milwaukee Valve Company – Model UP149
- C. Gate Valves 4 inches and larger shall be: 200 psi non-shock cold water, ANSI / NSF 61, Class 125 cast iron flanged valve, cast iron body and bonnet, full port encapsulated wedge, brass alloy stem, and with cast iron hand wheel.
- D. Manufacturer and Model: (Flanged End Connections)
 - 1. Apollo Valve – Model 610F-LFA
 - 2. Milwaukee Valve – Model F-2885-M26

Notes:

- 1.) Heating Hot Water not to exceed 240 F
- 2.) Glycol Chilled water, check fluid compatibility with valve material.
- 3.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: GL-1

Valve Type: Globe

Function: Throttling

Service: Steam and Condensate

Design Code: API 602, ASME B16.34

Size: 2” and below

Pressure Class: 800

Body: ASTM A105 Carbon Steel

Bonnet: ASTM A105 Carbon Steel

Trim: 13% Cr 410 Stainless Steel

Disc Surface: 13% Cr 410 Stainless Steel

Seat Surface: CoCr HF (Stellite)

Packing: Graphite


End Connection: Thread or Socket Weld

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Vogt	12141	2” and below
Velan	2074B-02TY	2” and below
Bonney Forge	HL31	2” and below
Sharpe	4483-4	2” and below

Notes:

- 1.) Provide appurtenances as outlined in this standard.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: PL-1

Function: On/Off

Service: No. 2 fuel oil

Design pressure: 125 psi at 100 degrees F

Body: Carbon steel

Trim: Stainless steel plug

Seats: Viton

Sleeve: Tuflin XP sleeved PTFE

Packing: N/A


End connection: 2” and up: Flanged
1/2” through 1 1/2”: Threaded

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
XOMOX	XX-066-TS-2-6-P1-WY-X	1/2 inch thru 1 1/2 inches
XOMOX	XX-067-TS-2-6-P1-WY-X	2 inches to 6 inches

Notes:

- 1.) Provide valve with locked closed option.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: PL-2

Function: On/off

Service: Natural Gas and LPG

Design pressure: 200 psi at 150 degrees F

Body: Ductile iron,

Trim: Lubricated

Seats: Ductile iron

Seals: TFE

Packing: N/A

End connection: Class 125 FF

Body construction: Bolted, wrench operated


Trim construction: Cylindrical port plug

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Homestead	622 with 650 sealant	1 inch to 6 inches

Notes:

- 1.) Provide valve with locked closed option.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve Specification: CK-1

Valve Type: Check

Function: Check

Service: Steam and Condensate

Design Code: API 602, ASME B16.34

Size: 2” and below

Pressure Class: 800

Body: ASTM A105 Carbon Steel

Bonnet: ASTM A105 Carbon Steel

Trim: 13% Cr 410 Stainless Steel

Disc Surface: 13% Cr 410 Stainless Steel

Seat Surface: CoCr HF (Stellite)

Packing: Graphite


End Connection: Thread or Socket Weld

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Vogt	S701	
Velan	2114B-02TY	
Bonney Forge	HL61	
Sharpe	24834SC	

Notes:

- 1.) Verify application before specifying check valve, for example swing or spring type.

	Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

VALVE DATA SHEET

Valve tag: CK-6

Function: Flow Direction,

Service: Sanitary, backwater type valve

Design pressure: -

Body: -

Trim: -

Seats: -

Seals: -

Packing: -

End connection: -

Body construction: -


Trim construction: -

Accepted Models:

<u>Manufacturer</u>	<u>Figure Number</u>	<u>Size Range</u>
Yale Approved	-	2 inch to 12 inches

Notes:

- 1) Shall be accessible for service and repair.
- 2) Locate inside building
- 3) The applications for backwater valves vary. Review the design and approach with facility engineering for approval of the application.

	<p>Title: YALE OFFICE OF FACILITIES PROCEDURE MANUAL Chapter: 01 – Yale Design Standard Division: HVAC Standards</p>	Section: 23 05 23 00 General-Duty Valves for Mechanical Systems
		Date: January 10, 2025
		Author: Yale Facilities

Date	Description of Change	Pages / Sections	ID
06/15/16	Entire document	-	mlamore
08/01/21	Coordinated valve types with Utilities and added additional Yale-approved valves.	-	mlamore
01/10/25	BA-1: Remove HPS	P.5, Valve Date Sheet BA-1	Facilities Engineering