Mayford Estate

Architect:
Issue Status: D2 – TENDER

Table 1 ISOLATION AND SERVICES VALVES 1

Table 1 **ISOLATION AND SERVICES VALVES**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
IV-1	Isolation valve for small bore pipework and gas applications	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor Gas	Ball	Manual	DN 15 to 54	Non-gas application: -10 to 100°C Gas application: -20 to 60 °C	Non-gas: 16 Gas: 5	No	Material: bronze or DZR, copper alloy body with chrome or nickel plated DZR sphere with full bore flow aperture. PTFE seats and stem seals. Anti-blowout stem.	WRAS Approved Ball valve to BS EN331 Lever operated: In plantrooms, risers and service zones not accessible by the public. Key operated: For final connections to appliances or in public areas. Gas Lever colour: yellow
IV-2	Isolation for larger bore pipework and gas applications (65mm dia. pipelines and above)	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor Gas	Butterfly	Manual	Ø42 to 76	-10 °C to 100 °C	16	No	Material: ductile/cast iron body; stainless steel shaft; aluminium bronze disc; EPDM seat. Bonded seat.	WRAS approved Butterfly valve to BS EN593. Lever Operated and graduated notch plate. Provide lever and gear operated valves with long body neck for lagging clearance. Gas Lever colour: yellow
IV-3	Service valve with flow regulation used for final connection to sanitary ware items.	Potable water	Service valve (Ball type)	Manual		0 °C to 85 °C	16	No	Material: Nickel Plated Brass body with hard chrome plated sphere with full bore flow aperture. PTFE seats and stem seals. Ends (to suit pipework): compression to BS EN1254-2 and BS EN 1057	
SC-1	Stop valve for use on mains water service	Potable water	Stop Cock	Manual				No	Body and all parts in contact with water are made from DZR copper alloy body/ gunmetal. Ends (to suit pipework): threaded to BS21 and BS EN10226-1 or compression to BS EN1254-2 to suit pipework.	WRAS approved Stop valve to BS1010-2. Stop cock to be operated by t-handle

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

SC-2	Stop valve for use on mains water service (65mm dia. pipelines and above)	Potable water	As IV/2	Manual		As IV/2	As IV/2	As IV/2	As IV/2	As IV/2
MV	Water services solenoid isolation valve	Potable water	Servo-operated (diaphragm)	Automatic		-10 to 90 °C	16	No	DZR brass body EPDM seals	
LSV	Lockshield valve for expansion vessels	Potable water	Ball	Manual		-20 °C to 120 °C	16	No	Brass	BS EN 12828 Operated by allen key

Table 2 **FLOW/PRESSURE REGULATION & MEASUREMENT**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
EV	Differential pressure relief valve	Potable water		Automatic		-20 to 120 °C	16	Yes	Bronze/Brass	BS EN ISO 4126-1 Relief valve discharge pipes shall be at least full bore of the same quality as the vessel or pipeline and comply with BS 806/ BSEN 13480-1 to 13480-5. Pipes shall be well clear of insulation and terminate in a visible and safe position.
FMD	Flow measurement.	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Fixed office metering station	N/A		-10 to 120 °C	16	No	Stainless steel	BS 7350
DRV-1	Flow regulation	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Double regulating valve (DRV)	Manual	Up to Ø50	-10 to 120 °C	16	No	Bronze or DZR copper alloy	Double regulating valve, globe type to BS7350, Section 3.1. Body to BS12165; (65Ø & above) cast iron to BS EN13789 for flanged ends and ductile iron to BS EN13789 for grooved ends. Valves to be capable of isolation when fully closed.

Max Fordham LLP
London Office

T +44 (0)20 7267 5161 maxfordham.com

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
DRV-2	Flow regulation	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Double regulating valve (DRV)	Manual	Ø65 & above	-10 to 120 °C	16	No	Cast iron for flanged ends Ductile iron for grooved ends	Double regulating valve, globe type to BS7350, Section 3.1. cast iron to BS EN13789 ductile iron to BS EN13789 Valves to be capable of isolation when fully closed.
VODRV	Flow regulation and measurement	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Variable orifice double regulating valve	Manual		-10 to 120 °C	16	No	Ductile Iron	Flow measurement device to BS7350, Section 3.2 Type 3.
FODRV	Single point flow regulation and measurement. (RMD close coupled to a DRV).	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Fixed orifice double regulating valve (aka commission set)	Manual		-10 to 120 °C	16	No	Bronze	BS 7350
DPCV	Provide a constant pressure differential across the flow and return runs.	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Differential pressure control valve	Automatic			16	No	Cast Iron Or Cast steel Or Stainless steel	
M2PV	Flow control and variation	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Two port motorised control valve	Automatic		-10 to 130 °C	16	No	Cast Iron Or Bronze	Controls contractor to select to achieve valve authority.
M3PV	Flow control and variation	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Three port motorised control valve	Automatic		-10 to 130 °C	16	No	Cast Iron Or Bronze	Controls contractor to select to achieve valve authority.

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Mayford Estate

Architect:
Issue Status: D2 – TENDER

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
TCB	Temperature Controlled Bypass	LTHW heating with corrosion inhibitor	FJV Thermostatic Valve	Automatic		2 – 130 °C	16		Valve body material: DZR brass BS 2872/CZ132 Valve cone material: NBR rubber Valve seat material: Cr Ni steel W.no 1.4301	

MAX FORDHAM

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

Table 3 **CHECK & SAFETY VALVE**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
NRV	Backflow prevention	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Non-return valve (check valve)	Automatic		-10 to 85°C	25	No	Bronze body	WRAS approved Swing check valve to BS 5154.
DCV	Backflow prevention on mains water supply. Application On incoming supply	Potable water	Double check valve	Automatic		-10 to 85°C	10 & 16	No	DZR Copper Alloy body	WRAS approved Double check valve to BS 5154.
PRV	Control of pressure from boosted cold water supplies to match site requirements	Potable water	Pressure reducing valve	Automatic		Max 80 °C	16	No	Bronze body, spring steel spring, stainless steel strainer.	WRAS approved Pressure reducing valve to BS EN 1567
DASV	All water heaters and pressure vessels		Direct acting safety valve						Bronze or DZR copper alloy body.	Direct acting safety valve to BS EN ISO4126-1. Protect from unauthorised adjustment.
TMV	Temperature control to hot water service outlets to prevent scalding.	Potable water	Thermostatic mixing valve	Manual			10	No	DZR brass body Operator: Lockshield	WRAS approved TMV 3 Standard Thermostatic mixing valve with service valves, strainer and check valve. Temperature adjustment to be tamperproof.
FOV	To control amount of water in water tanks.	Potable water	Float operated valve	Automatic		Max 85 °C	14	No	Brass/ Gunmetal	WRAS approved BS 1212-1, BS 1968 and BS 2456
RPZ	Backflow prevention for connections to plant	Potable water	Reduced pressure zone							Category 4 air break Material: DZR brass or bronze DN40+ body

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP
Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026
Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
SCV	Single check valve for use in domestic water systems to prevent backflow Non-return valve			Automatic backflow prevention		Up to 85 °C	10	No	DZR Brass	Body to BS EN 12164 CW602N, compression nut to BS EN 12164 CW6 14N
WHSA	Water Hammer and Surge Arrestor	Potable water		Mechanical		Up to 60°C	16		Epoxy coated ductile iron.	Three function - Releases air to prevent pressure build up; allows ingress of air to prevent vacuum in the pipework; provides a controlled bleed of air. Include connection to drain with dry trap. BS EN 17-4:2000

MAX FORDHAM

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

TABLE 4 OF 6: RADIATOR VALVES
Table 4 **RADIATOR VALVES**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
LS-R /LS	Flow regulation and isolation on heat emitters.	LTHW heating with corrosion inhibitor	Radiator valve (lockshield)	Manual		up to 120 °C	10	No	Bronze, brass body, nickel plated	BS 2767.
TRV									Refer to Radiator/Heating Schedule	

MAX FORDHAM

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

Table 5 **AIR & SOLIDS REMOVAL DEVICES**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
AV	Venting or air from water systems at high points.	LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Air vent	Automatic		Up to120 °C	10	No	Brass body	BS EN 12165 CW617N
AVV	Protection against a vacuum in hot water system	Potable water	Anti Vacuum Valve	Automatic		Up to 99°C	16	No	Brass Body	WRAS approved
STR-1	Suspended solid and dirt removal.	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Strainer (Y-Body)	Manual	Up to Ø54	-10 °C to 100 °C	16	No	Bronze/Gunmetal body	WRAS approved
STR-2	Suspended solid and dirt removal.	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Strainer (Y-Body)	Manual	Ø65 & above	-10 °C to 100 °C	16	No	Cast iron	WRAS approved
DAS.1	Dirt Air Separator	Refer to schedule J6828-MXF-XX-XX-SH-M-10002.								

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

Table 6 **PIPELINE ANCILLARIES**

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
DC.1	For drainage of large bore pipework.	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Drain cock	Manual	Ø25mm and above	Up to 110°C	16	No	Brass / Bronze	WRAS approved
DC.2	For drainage of small bore pipework	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Drain cock	Manual	Up to Ø25mm	Up to 110°C	16	No	Bronze or DZR copper alloy.	WRAS approved Screwdown cock type to BS2879 Type 1. Lockshield operated
TP	Self-sealing test plugs for measurement of temperature and pressure	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Test Point	Manual		Up to 120°C	25	N/A	DZR Copper Alloy	WRAS approved Self sealing test points complete with captive cap for sealing when not in use. Ensure test plugs are suitable for system operating temperature and pressure. Provide one thermometer and pressure gauge for each range of conditions, for use with test plugs.
T	Pipeline temperature measurement	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Temperatur e gauge	N/A	150 mm dia in plant rooms 100 mm dia elsewhere.			No	Mercury in steel, mounted direct in pocket; or vapour pressure to BS EN13190 mounted direct in pocket with horizontal or vertical stem as appropriate.	Use temperature gauges with pocket and gland attachment on thermometer stem. Use separable type pockets, threaded 15/19mm BSP and manufactured from corrosion resistant bronze. Screw pockets into tapped bosses or stools set in pipelines or vessels. Fill pockets with oil to BS7207 to ensure contact with thermometer bulb. Provide gauges with dial graduation in degrees celsius marked on a logarithmic scale. Ensure pointer movement is clockwise for increase in temperature.

Max Fordham LLP
London Office

T +44 (0)20 7267 5161 maxfordham.com

© Max Fordham LLP

Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026

Registered office:
42-43 Gloucester Crescent,
London NW1 7PE

Mayford Estate

Architect:
Issue Status: D2 – TENDER

REF	APPLICATION	SYSTEM/ SERVICE FLUID	BODY TYPE	ACTUATOR	SIZE RANGE (ØDN)	TEMPERATURE RANGE	PRESSURE CLASS (PN)	P/T PLUGS	MATERIAL	DESCRIPTION & STANDARDS
P	Pipeline pressure measurement	Potable water LTHW heating with corrosion inhibitor Chilled water with corrosion inhibitor	Pressure gauge		150 mm dia in plant rooms 100 mm dia elsewhere.			No		Use vapour pressure type gauges to BS EN837-1. Connect to pipeline via matched gauge cocks and cock connectors. Ensure dial graduation is from zero to between 1.5 and 3.0 times normal working pressure. Graduate in bar (gauge) on gauges reading head or working pressure, or in Pascals where pressure differences across plant items are to be established. Where fitted on boilers and pressure vessels, clearly mark with operating and maximum permissible working heads in accordance with BS759-1. Elsewhere provide gauges with normal working pressure. Ensure dial movement is clockwise for an increasing in head. Provide flexible piping where gauge is subject to noticeable vibration.
TD	Back flow Prevention	Potable water	Tundish	Automatic		Up to 99°C			Copper tundish. Use 3mm minimum thickness copper sheet. Form sheet into a tapered reducing cone with a minor diameter to suit drain line. Major diameter nominally 50mm larger than minor diameter, tapering at approximately 30degs.	WRAS approved BS EN 1717

Notes

1. Contractor to ensure that the catalogue number is consistent with the description prior to order.
2. A schedule of chosen valves is to be provided by the contractor minimum 4 weeks prior to order.
3. Manufacturers to provide all the necessary accessories along with their products such as valves.
4. Fittings to be supplied from a common manufacturer where available.
5. Contractor to ensure that pressure rating and operating pressure of all valves and fittings is suitable for the requirements of the system.

Rev	Date	Status	Description	Engineer	Project Leader
P05	26/08/22	D2	TENDER	EO	DL
P04	08/07/21	D2	TENDER	EO	DL
P03	07/06/21	S2	For Information	EO	DL
P02	19/04/21	S2	For Information	EO	DL
P01	15/02/21	S2	Draft for Information	EO	DL

Valves Schedule
J6828-MXF-XX-XX-SH-J-41002 Rev P05

© Max Fordham LLP
Max Fordham is a Limited Liability Partnership
Registered in England and Wales
Number OC300026
Registered office:
42-43 Gloucester Crescent,
London NW1 7PE