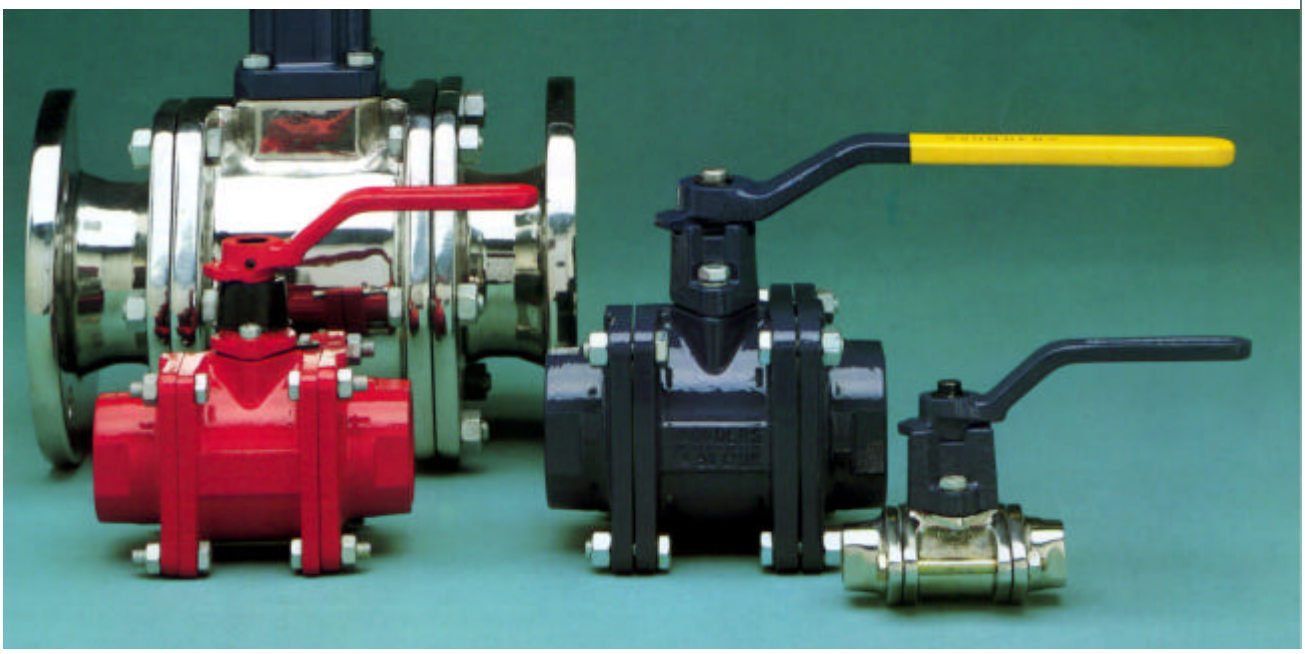
SAUNDERS

TYPE 'M'BALL VALVES

Saunders type 'M' full bore valves provide a choice of body, ball, seat materials, end connections and methods of operation to satisfy the needs of the majority of industrial ball valve applications where high flow and complete leaktight closure are important. Saunders full bore design is truly full bore, minimising pressure loss.



Method of Operation-
Standard handle designed for operator comfort, 90o action indicates valve position.

Other Methods of Operation
Diaphagm, piston or electric actuators, fitted without removing the valve from pipeline, cut operation time and labour.

Safety-
Stem shoulder/integral washer restrains stem for increased safety.

Stem Seal-
Nitrile rubber or reinforced PTFE is pressure assisted and self compensating for 100% leaktight performance.

Stem-
Mild steel stems are treated to resist corrosion for long working life. Stainless steel option gives strength on high pressure applications.

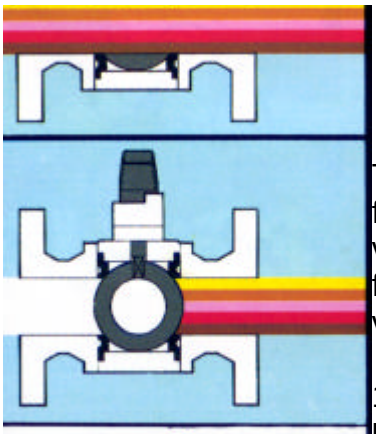
Ball-
Standard, cast iron, nylon coated for less frictional resistance, reduces operating power. Stainless steel option increases corrosion resistance and meets the need of 'clean' applications with stainless steel body.

Bonnet cover-
Prevents ingress of dust and dirt, protects stem from environmental attack.

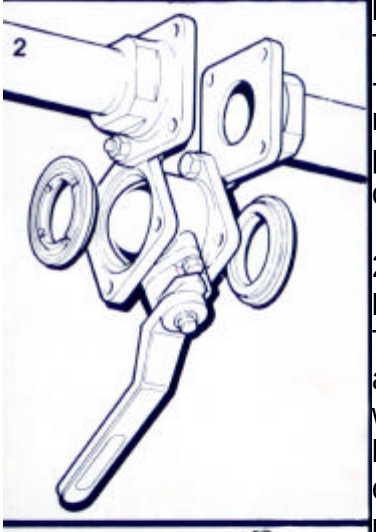
Coating-
Special process for phosphate and resin paint coating ensures all-over coverage to give all-round protection on cast-iron bodies and easy to clean finish.

End Connections-
Screwed and flanged connections suit UK, European and US specifications to avoid pipeline planning problems.

Seats-
Pressure assisted, self compensating, give complete closure throughout the pressure range, to stop product waste. Material

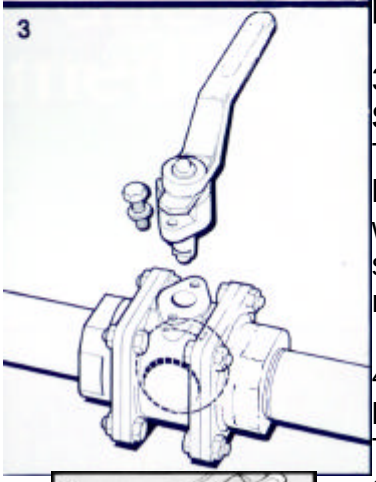


These additional features put type 'M' valves in the forefront of ball valve design.

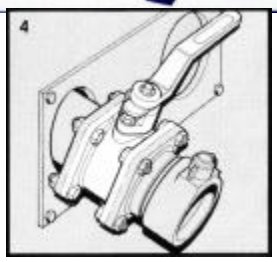


1
Flow-
True full bore design - minimum resistance to reduce pump power consumption.

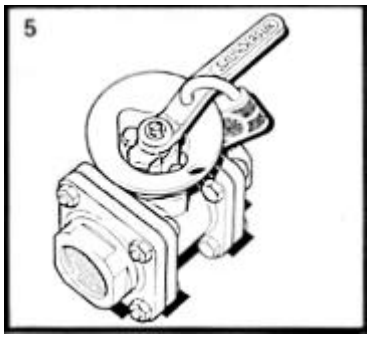
2
Maintenance-
Three piece design allows seat change without removing body from pipeline or breaking valve/ pipeline joints.



3
Stem/Seal change-
Top access design keeps the valve working during stem/ seal maintenance.



4
Installation-
Type 'M' valves are available for installation without end connections - to save space and weight.



5
Bonnet Options-
A choice of padlocking assemblies to prevent expensive (or illegal) interference.

The full type 'M' material range is:-

Grey cast iron body (flanged or screwed), nylon coated ball, nitrile seats and seal for general applications.

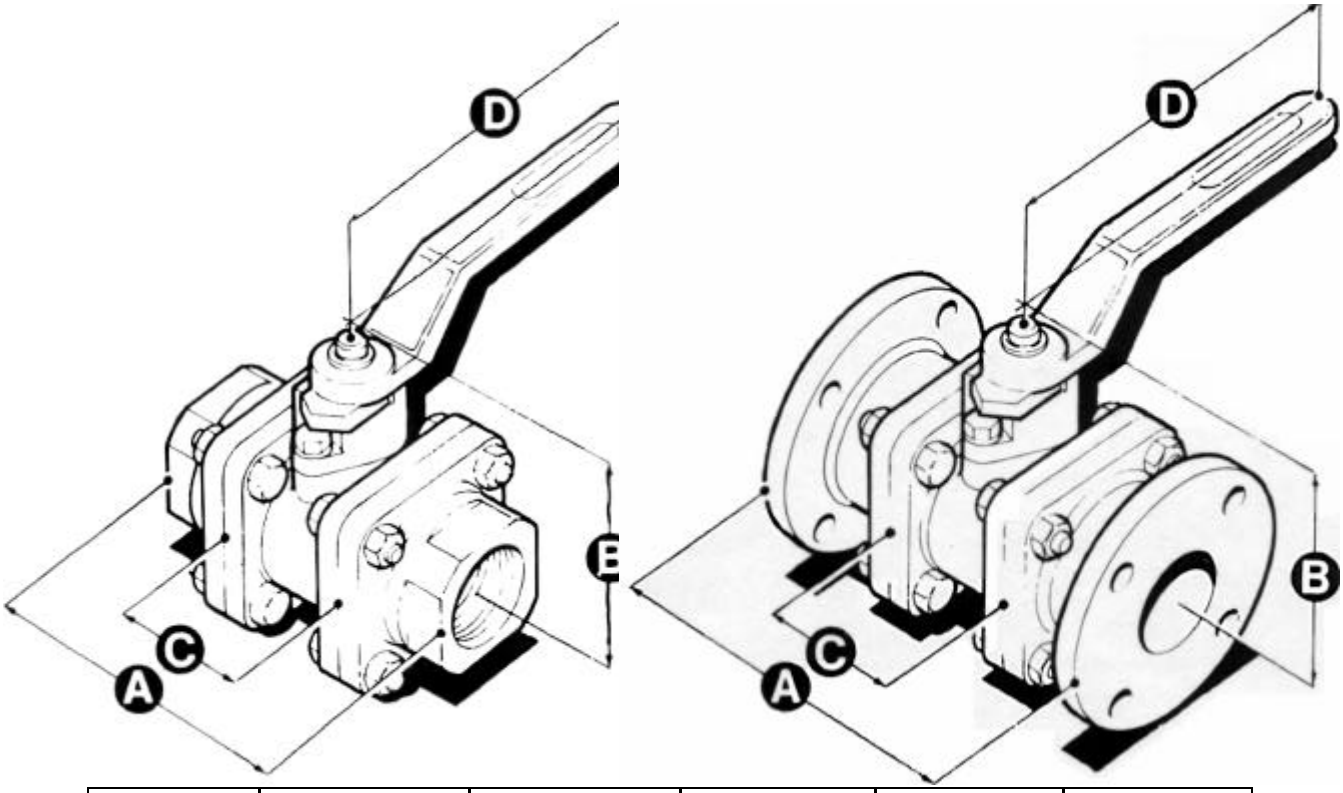
Grey cast iron body (flanged or screwed) stainless steel ball, Ptfe seats and seal for higher temperature use.

Stainless steel body (flanged or screwed), stainless steel ball, Ptfe seats and seal for 'clean', corrosive and higher temperature services.

Grey cast iron body (BS1452) (flanged or screwed), cast iron ball, nitrile seats and seal to suit specific applications, especially sludges.

SAUNDERS

TYPE 'M'BALL VALVES



Valve Size (DN)	Screwed Female Pipe Connections	Flanged Pipe Connections	Height		Body Length (without end	Handle length (radius)
	A (overall	A (overall	B1	B2	C	D
15	92	118	93	87	44	76
20	96	118	97	91	44	76
25	106	128	102	95	44	76
32	120	146	102	102	54	127
40	138	158	113	111	61	127
50	146	190	130	127	70	229
65	216	216	160	180	108	432
80	254	254	160	180	121	432
100	-	304	179	199	146	432

B1 = height with nitrile seal
B2 = height with Ptfe seal
Dimensions shown are for planning purposes and should not be used for manufacturing.

STANDARDS

As well as being in overall lengths of BS5156 and DIN 3202 Part 1 (277) Series F1, Saunders valves are manufactured to the following standards:

Flange Drillings

British BS10 tables D and E (flat face) BS4504 tables PN10/16 (flat face) BS1560 class 150

American ANSI B 16.1 class 125 (flat face) ANSI B 16.5 class 150

German DIN 2532/3 (flat face) DIN 2632/3 (flat face)

Female screwed pipe connections:

British BS21 parallel
German DIN 259
Japanese JIS B0202
International ISO 228

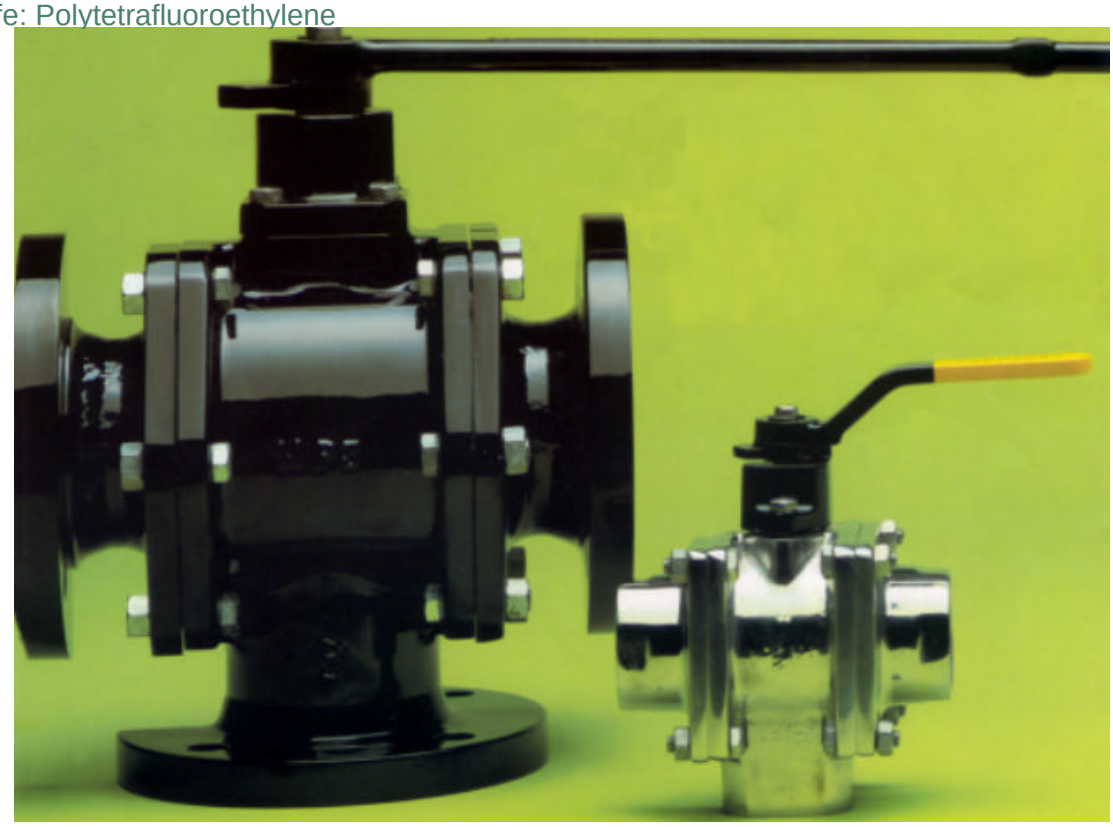
SAUNDERS

SABAL 'MP' **BALL VALVES**

Three-way valves cut the cost of diverting the flow

Based on the design of Sanders rugged straight through ball valves - but with the addition of a third port - the MP range provides a fast means of diverting line media flow for increased processing safety, flexibility in mixing, batching and increased production. The three part configuration reduces capital outlay - cutting out the need for treble valve installation. A size range of DN 25 - DN 80 is available in both stainless steel and cast iron body materials; two ball designs in stainless steel are complemented by self compensating Ptfe* seats and seals.

*Ptfe: Polytetrafluoroethylene



Method of operation - lever indicates valve position, reduces manual closure effort.

Other methods of operation - Saunders pneumatic actuators, fitted without removing the valve from the pipeline, reduce your labour costs.

Safety - stem shoulder restrains stem for increased safety, to allow higher pressures - more throughout.

Stem seal - reinforced Ptfe, pressure assisted and self compensating for 100% leaktight performance, to increase production volumes.

Stem - stainless steel meets even higher pressure applications.

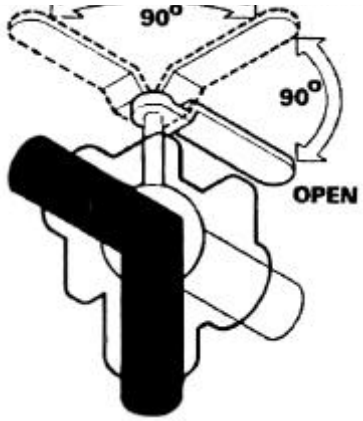
Ball - stainless steel, resists corrosion for long life and meets the needs of 'clean' applications (with stainless steel body) offering the extra insurance of no product contamination.

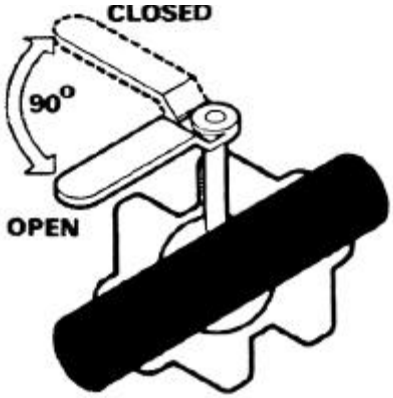
Coating - special process for phosphate and resin coating ensures easy to clean finish and all-round protection to cut out costly painting time.

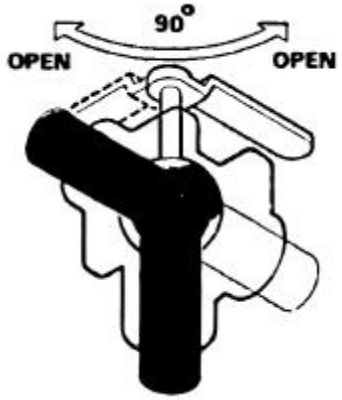
End connections - screwed and flanged connections suit UK, European and US specifications to avoid pipeline planning problems.

SAUNDERS

SABAL 'MP' **BALL VALVES**







Type M

Rugged, three piece valves available with female screwed or flanged end connections; cast iron/nylon coated or stainless steel ball and seats and seals of nitrile or Ptfe.
The standard method of operation is lever, but pneumatic and electric power actuators are available for remote operation. Type M valves are available without end connections.

MP Bent 'T' Port

Designed for flow switching duties; type MP valves are supplied with female screwed or flanged end connections (side connections being removable) in cast iron or stainless steel with Ptfe seats and seals.
Two designs of ball (L-port and bent T-port) allow direct transfer of line fluid from one pipeline to another or venting It can handle liquids, gases, slurries and many solids with equal ease.

Selection Guide - Ball Valve Types

Notes on Selection

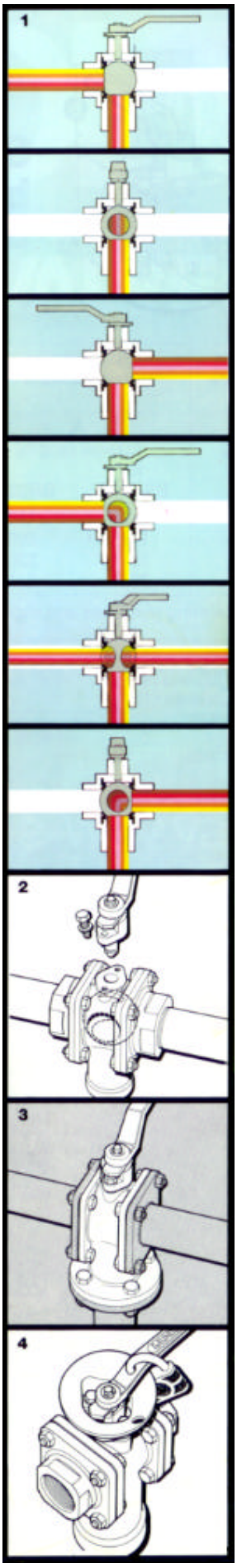
Whilst both the valves shown have 90o action (MP option of 180o on 'L' port) they each have purpose built features and performance characteristics to meet specific service needs.

Type 'M'

This industrial model has the highest capacity and a full bore streamlined flow.

Type MP

The main purpose is in change-over duties, providing safety and economy, from tanks and main line tappings. Designed from Type M service experience it has identical temperature/ pressure relationships, but would not be selected for 'solids' handling.



These additional features put type MP valves in the forefront of diverter ball valve design.

1
Flow
L port ball gives total flow control with 100% shut-off on third porrt to increase processing accuracy. T-port ball allows graduated cross-porting, keeps power actuator costs to a minimum.

2
Maintenance
top access design makes stem/seal change simple and fast to cut down-time, increase production.

3
Installation
type M valves may be ordered without two end connections for direct mounting into users' pipework - saving space, weight and capital outlay.

4
Bonnet options
a choice of padlocking assemblies prevents expensive (or illegal) interference and loss of product.

Saunders MP ball valves offer:

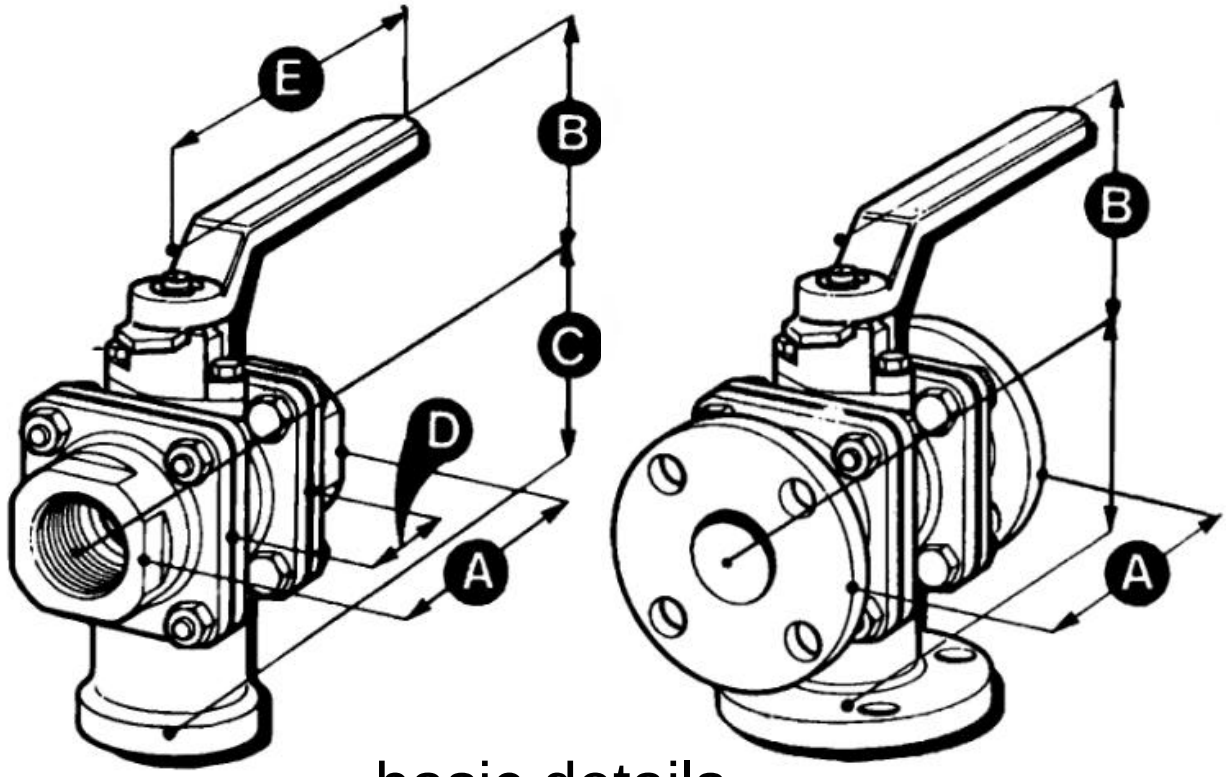
- **100% leaktight shut-off (L port ball) to stop waste, improve productivity**
- **T-port ball option allows wide actuator choice at low cost**
- **Total flow diversion (L and T port ball) for increased safety and output**
- **And these features are The full MP material range**

Grey cast iron body (flanged or screwed) stainless steel ball, (L or T port) Ptfe seats and seal for general applications.

Stainless steel body (flanged or screwed) stainless steel ball, Ptfe seats and seal for 'clean' corrosive and higher temperature services.

SAUNDERS

SABAL 'MP' **BALL VALVES**



basic details

Dimensions

Valve size (DN)	Screwed female pipe connections	Flanged pipe connections		Height				Body length (without end connections)	Handle Radius
	A **(overall length)**	A **(overall length)**		B	C screwed		flanged	D	E
		BS 5156	**DN3202**		SS	C1			
25	106	127	160	96	57	67	86	44	127
40	138	159	200	111	70	86	99	61	127
50	146	191	230	127	80	105	115	70	229
80	254	254	310	170	-	131	146	121	432

Dimensions shown are for planning purposes and should not be used for manufacturing.