

Irrigation

Ordering Guide

920

MO

55

G

C

I6

Control Categories	Code
Hydrometer with Magnetic Drive Command	MO
Hydrometer with Magnetic Drive Command & V-Port	MV

Additional Features	Code
No Additional Feature	00
Closing Speed-Control	01
Closing and Opening Speed-Control	03
Hydraulic Override	09
Electronic Control	18
Check Feature	20
Solenoid Controlled & Check Feature	25
Two-Stage Opening	30
Electrically Selected	45
Adjustable Level Setting	48
Temperature Over Pressure Guard	49
...	50
...	51
...	52
...	53
...	54

End Connections	Code
BSP Female Threaded (1½"-3"R Globe & 2" Angle)	BP
NPT Female Threaded (1½"-3"R Globe & 2" Angle)	NP
BSP-U Male Threaded (1½" & 2")	BS
Hydrant 2½" x BSP	HP
Flange (JIS-10) inlet x BSP outlet	JB
ISO-10	10
ISO-16	16
ISO-14 (ISO 10/4 Holes), 3"	14
ANSI-125	A1
ANSI-150	A5
BST-D	BD
JIS-10	J1
JIS-16	J6
ABNT-10	B1
ABNT-16	B6

Threaded

Flanged (2"-10")



Ordering Guide

May 2010

Order all Bermad products from www.irrigationglobal.com

100 Series High Performance Plastic Hydraulic/Electric Control Valves
 100 Series High Performance Plastic Hydraulic/Electric Control Valves

Water Control Solutions



BERMAD Irrigation

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General Notes

- As part of our ongoing effort to provide you with the products that you need, if the characteristics or features that you need are not listed in this ordering guide, please contact BERMAD.
- Some valve categories and features can be mixed and matched. When in doubt, contact BERMAD. This edition supersedes previous editions. We recommend that you discard previous editions.

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200 Series Plastic Hydraulic/Electric Control Valves

04.2010





IR 3" 120 55 Y P BP 4AC PP ZX

Size (Available End Connection)	
1 1/2" (Female Threaded)	DN40
2" (Male or Female Threaded)	DN50
2"L (Female Threaded)	DN50L
2 1/2" (Male Threaded)	DN65
3" (Female Threaded, Flanged, Grooved, Horn or Cemented)	DN80
3"L (Female Threaded, Flanged, Grooved or Cemented)	DN80L
4" (Flanged, Grooved or Cemented)	DN100
6" (Flanged or Grooved)	DN150

Primary Features	Code
Basic Valve	105
Basic Valve Internal Feed (1 1/2"-3")	105-N
Solenoid Controlled Valve	110
Pressure Reducing Valve	120
Pressure Reducing & Sustaining Valve	123
Pressure Sustaining Valve	130
Quick Pressure Relief Valve	13Q
Level Control Valve	150
Flow Control Valve	170
Flow Control & Pressure Reducing Valve	172

Other primary features available on request.

Additional Features	Code
No Additional Features	00
Accelerated Closing (1 1/2"-3")	04
Electric Valve, without Solenoid	05
Hydraulic Relay	50
Normally Closed with Hydraulic Relay	54
Normally Closed with PC Hydraulic Relay	54X
Solenoid Controlled	55
Modulating Horizontal Float	60
Modulating Horizontal Float, Low Pressure Systems	6L
Internal Feed & Bleed with Electric Cover	N1
External Feed & Internal Bleed with Electric Cover for 110-2W/3W	N5
Low Pressure PRV	LP

Pattern (Available Sizes)	Code
Oblique (all sizes)	Y
Angle (3" & 3"L/4")	A
Tee (3", Horn Outlets)	T
Dual Actuated Tee (3", Male Threaded or Horn Outlets)	D

Construction Materials	Code
Black Nylon Glass Filled (Standard)	P
Polypropylene (Spacial Applications)	PP

End Connections - Valve Body only (w/out Adapters)		Code
Threaded	BSP Female Threaded	BP
	NPT Female Threaded	NP
	BSP-F, Male Threaded (2" & 2 1/2")	BS
Grooved*	4" Angle & 6"	VI
Horn	Inlet BSP x Outlet(s) Horn (3" Angle / Tee / Dual)	KB
	Inlet NPT x Outlet(s) Horn (3" Angle / Tee / Dual)	KN

End Connections - Valve Body with Adapters***		Code
Flanged**	Plastic Flanges (3", 3"L, 4, 6")	FF
	Metal Flanges - "Corona" (3", 3"L, 4")	CC
PVC Cemented (glue-in)	ID 75 mm (3", 3"L)	BJ
	ID 2 1/2" (3", 3"L)	NJ
	ID 90 mm ; OD 110 mm (3", 3"L, 4")	T1
	ID 110 mm ; OD 125 mm (3", 3"L, 4")	T2
	ID 3" ; OD 4" (3", 3"L, 4")	T3
	ID 4" only (3", 3"L, 4")	T4

* Comply to: ANSI C 606-81

** Comply to: ISO PN10, BST-D, ANSI 125/150, JIS K-10

*** For ordering the adapters separtly see "Accessories", page 24

Inlet x Outlet(s) end connections combinatiois available on request. Please consult Costumer Service for further information

Voltage-Main Valve Position (When Solenoid De-Energized)	Code
24VAC - Normally Closed	4AC
24VAC - Normally Open	4AO
24VDC - Normally Closed	4DC
24VDC - Normally Open	4DO
12VDC - Normally Closed	1DC
12VDC - Normally Open	1DO
12VDC - Latch Solenoid S-985 (3 Leads)	1DS
12VDC - Latch Solenoid S-982 (2 Leads)	2DS
9VDC - Latch Solenoid	9DS

Other electrical ratings available on request.

Tubing & Fittings	Code
Plastic Tubing & Fittings (standard)	PP
Plastic Reinforced Tubing & Brass Fittings	PB

Additional Attributes Unlimited Selection	Code
Servo (2/3-way Control Loop)	b
3-way Control Loop	X
Differential Pressure Duct (2"-4")	D
External Control Pressure	e
Drain & Anti-Freeze Valve	f
Orifice Assembly	U
Flow Stem	M
Manual Selector	Z
Low Preset Pressure (below 2 bar)	2
Plastic Pressure Test Point	5

Other additional attributes are optional. Please consult our customer service for further information.

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IR **1½"** **220** **55** **A** **P** **BP** **2W** **4AC** **M**

Size		
¾"	DN20	On/Off
1"	DN25	
1½"	DN40	
2"	DN50	

Primary Features	Code
Basic Valve	205
Solenoid Controlled Valve	210
Pressure Reducing Valve	220
Pressure Reducing & Sustaining Valve	223
Pressure Sustaining Valve	230
Level Control Valve	250

Other primary features available on request.

Additional Features	Code
No Additional Features	00
Accelerated Closing	04
Electric Valve, without Solenoid	05
Hydraulic Relay	50
Normally Closed with Hydraulic Relay	54
Normally Closed with PC Hydraulic Relay	54X
Solenoid-Controlled	55
Modulating Horizontal Float	60

Pattern	Code
Globe	G
Angle (1½"-2")	A

Construction Materials	Code
Black Nylon - Glass Filled	P

End Connections	Code
BSP Female Threaded	BP
NPT Female Threaded	NP

Control Type	Code
2-Way	2W
3-Way	3W
2/3-Way	2/3W

Voltage-Main Valve Position (When Solenoid De-Energized)	Code
24VAC - Normally Closed	4AC
24VAC - Normally Open	4AO
24VDC - Normally Closed	4DC
24VDC - Normally Open	4DO
12VDC - Normally Closed	1DC
12VDC - Normally Open	1DO
12VDC - Latch Solenoid S-985 (3 Leads)	1DS
12VDC - Latch Solenoid S-982 (2 Leads)	2DS
9VDC - Latch Solenoid	9DS

Other electrical ratings available on request.

Additional Attributes Unlimited Selection	Code
Servo (2/3-Way Control Loop)	b
3-Way Control Loop	X
External Control Pressure	e
Special Elastomers Seals & Diaphragm	E
Drain & Anti-Freeze Valve	f
Flow Stem	M
Internal Feed	N
Orifice Assembly	U
Manual Selector	Z
Low Preset Pressure (below 2 bar)	2
Plastic Pressure Test Point	5

Other additional attributes are optional. Please consult Customer Service for further information.

BERMAD Irrigation



Double Chamber Hydraulic Control Valves

300 Series

IR 2" 320 55 Y PP BP 3W PCP 4AC PP M

Size	
1½"	DN40 (Brass or Plastic)
2"	DN50 (Brass)
3"	DN80 (Cast Iron-Green)

Primary Features	Code
Basic Valve (Double-Chambered)	300
Basic Valve (Single-Chambered)	305
Solenoid Controlled Valve	310
Pressure Reducing Valve	320
Pressure Sustaining Valve	330
Quick Pressure Relief Valve	33Q
Level Control Valve	350

Other primary features available on request.

Additional Features	Code
No Additional Features	00
Check Feature	20
Hydraulic Relay	50
Normally Closed with Hydraulic Relay	54
Solenoid Controlled	55
Modulating Horizontal Float	60
Bi-Level Electric Float	65
Normally Closed (Hydraulic)	NC

Pattern	Code
Oblique	Y
Oblique Plastic (1.5")	YP
Angle (2")	A

Cover Material	Code
Plastic	P

End Connections		Code
Threaded	BSP Female Threaded (1½"-3")	BP
	NPT Female Threaded (1½"-3")	NP
Flanged	BST-D	BD
	ISO 14 (ISO 10/4 Holes)	14
	ANSI 125	A1
	ABNT 10	B1

Control Type	Code
2-Way	2W
3-Way	3W
2/3-Way	2/3W

Mini Pilot Material	Code
Plastic	PCP (Standard)
Metal	PCM

Voltage-Main Valve Position (When Solenoid De-Energized)	Code
24VAC - Normally Closed	4AC
24VAC - Normally Open	4AO
24VDC - Normally Closed	4DC
24VDC - Normally Open	4DO
12VDC - Normally Closed	1DC
12VDC - Normally Open	1DO
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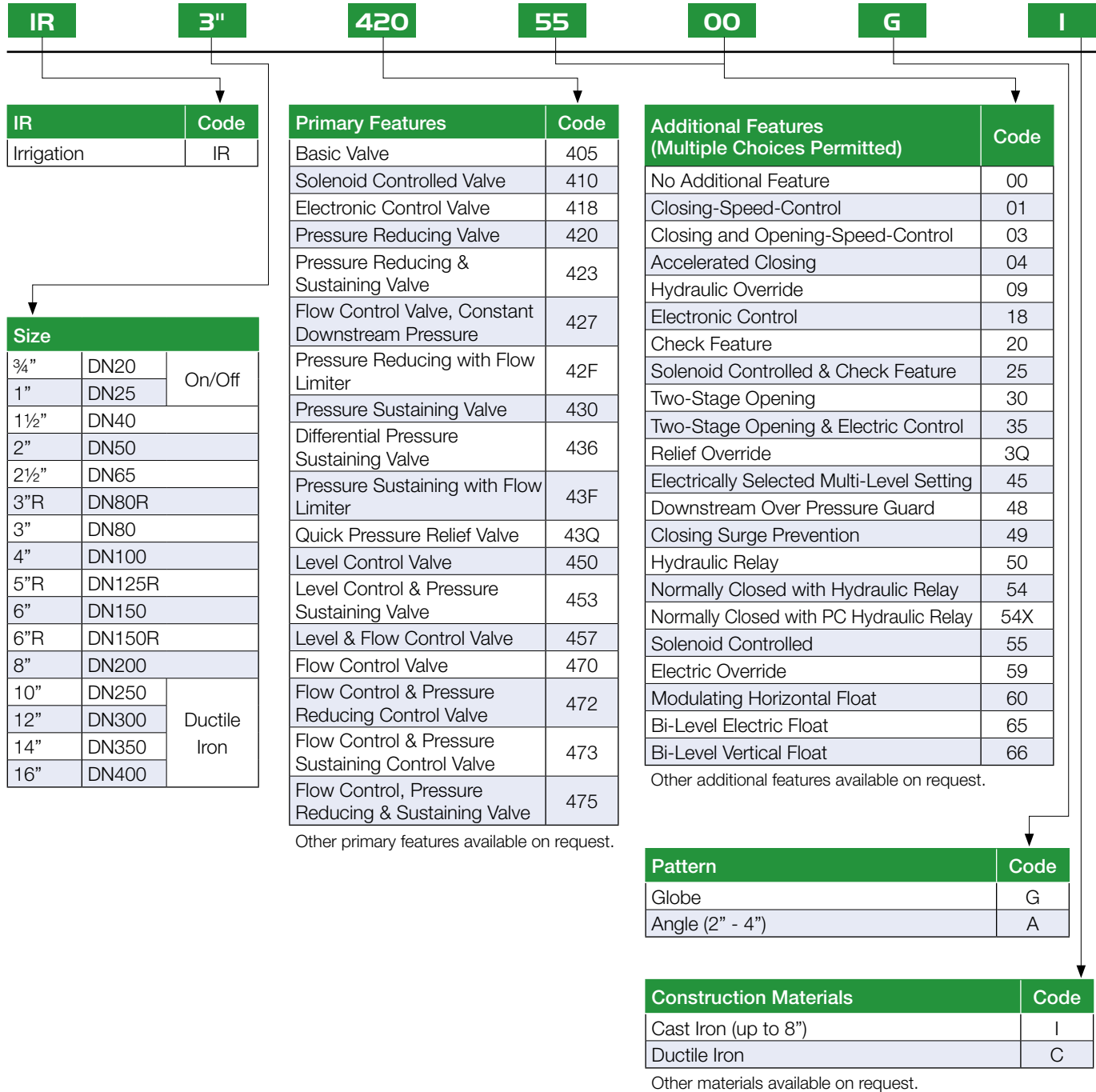
Other electrical ratings available on request.

Tubing & Fittings	Code
Plastic Tubing & Fittings	PP
Plastic Reinforced Tubing & Brass Fittings	PB

Other tubing and fittings available on request.

Additional Attributes Unlimited Selection	Code
Servo (2/3-Way Control Loop)	b
3-Way Control Loop	X
Metal Control Accessories	R
Double-Chambered (Active)	B
Special Elastomers Seals & Diaphragm	E
Auxiliary Closing Spring	K
External Control Pressure	e
Lifting Spring	L
Flow Stem	M
Flow Over-the-Seat	O
Industrial Internal Trim (S.S. Trim 3")	T
Orifice Assembly	U
Conic Throttling Disc	V
"Y" Control Strainer	Y
Drain & Anti-Freeze Valve	f
Manual Selector	Z
Low Preset Pressure (below 2 bar)	2
Plastic Pressure Test Point	5
Pressure Gauge (Loose)	6

Other additional attributes are optional. Please consult Customer Service for further information.





End Connections		Code	
Threaded	BSP Female Threaded	3/4" -3"	BP
	NPT Female Threaded		NP
Flanged	ISO-10	10	
	ISO-16	16	
	IS 14 (ISO 10/4 Holes, 3")	14	
	ANSI-125	A1	
	ANSI-150	A5	
	BST-D	BD	
	JIS-10	J1	
	ABNT-10	B1	
Grooved	ABNT-16	B6	
	ANSI C 606-81, Steel Pipe (Globe - 2", 3", 4" & 6"; Angle - 3" & 4")	VI	

Other end connections available on request.

Coating	Code
Polyester Green RAL 6017	PG

Voltage-Main Valve Position (When Solenoid De-Energized)	Code
24VAC, with Diode - Normally Closed	4AC
24VAC, with Diode - Normally Open	4AO
24VAC - Last Position	4AP
24VAC - Normally Closed	4RC
24VAC - Normally Open	4RO
24VDC - Normally Closed	4DC
24VDC - Normally Open	4DO
24VDC - Last Position	4DP
12VDC - Normally Closed	1DC
12VDC - Normally Open	1DO
12VDC - Last Position	1DP
12VDC - Latch Solenoid S-985 (3 Leads)	1DS
12VDC - Latch Solenoid S-982 (2 Leads)	2DS
9VDC - Latch Solenoid	9DS

Other electrical ratings available on request.

Tubing & Fittings	Code
Plastic Tubing & Fittings	PP
Plastic Reinforced Tubing & Brass Fittings	PB
Copper Tubing & Brass Fittings	CB

Additional Attributes Unlimited Selection	Code
Servo (2/3-Way Control Loop)	b
3-Way Control Loop	X
Plastic Control Accessories	K
Metal Control Accessories	R
External Control Pressure	e
Large Control Filter	F
Drain & Anti-Freeze Valve	f
Valve Position Indicator *	I
Flow Stem *	M
Electric Limit Switch *	S
Differential Pressure Duct (2"-8")	D
Orifice Assembly	U
Paddle Flow Control Pilot	V
Manual Selector	Z
Low Preset Pressure (below 2 bar)	2
High Upstream Pressure (above 10 bar)	3
Plastic Pressure Test Point	5
Pressure Gauge	6

* Standard Irrigation Cover & Diaphragm are unfitted to Attributes I, M, S.

Other additional attributes are optional.
Please consult Customer Service for further information.

BERMAD Irrigation



Hydraulic Control Valves for Waterworks Systems

WW-700 Series

WW		6"		720		55		Y		C																																																																																																																																										
<table border="1"> <thead> <tr> <th>Sector</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Waterworks</td> <td>WW</td> </tr> <tr> <td>Drinking Water</td> <td>WD</td> </tr> <tr> <td>WW Aggressive Water</td> <td>WA</td> </tr> <tr> <td>WW Seawater</td> <td>WS</td> </tr> <tr> <td>WW Air Conditioning</td> <td>WC</td> </tr> <tr> <td>WW Hot Water</td> <td>WH</td> </tr> </tbody> </table>		Sector	Code	Waterworks	WW	Drinking Water	WD	WW Aggressive Water	WA	WW Seawater	WS	WW Air Conditioning	WC	WW Hot Water	WH	<table border="1"> <thead> <tr> <th>Pattern</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Oblique (1½-20")</td> <td>Y</td> </tr> <tr> <td>Angle (1½-18")</td> <td>A</td> </tr> <tr> <td>Globe (24-36")</td> <td>G</td> </tr> </tbody> </table>		Pattern	Code	Oblique (1½-20")	Y	Angle (1½-18")	A	Globe (24-36")	G	<table border="1"> <thead> <tr> <th>Construction Materials</th> <th>Code</th> </tr> </thead> <tbody> <tr> <td>Ductile Iron</td> <td>C</td> </tr> <tr> <td>Cast Steel</td> <td>S</td> </tr> <tr> <td>Stainless Steel 316</td> <td>N</td> </tr> <tr> <td>Nickel Aluminum Bronze</td> <td>U</td> </tr> </tbody> </table> <p>Other materials available on request.</p>		Construction Materials	Code	Ductile Iron	C	Cast Steel	S	Stainless Steel 316	N	Nickel Aluminum Bronze	U	<table border="1"> <thead> <tr> <th>Additional Feature (Multiple Options Permitted)</th> <th>Code</th> </tr> </thead> <tbody> <tr><td>No Additional Feature</td><td>00</td></tr> <tr><td>Closing and Opening Speed Control</td><td>03</td></tr> <tr><td>Differential Pressure</td><td>06</td></tr> <tr><td>Hydraulic Override</td><td>09</td></tr> <tr><td>Check-Lock</td><td>11</td></tr> <tr><td>High Sensitivity Pilot</td><td>12*</td></tr> <tr><td>Electronic Control</td><td>18</td></tr> <tr><td>Check Feature</td><td>20</td></tr> <tr><td>Independent Flow Check (24-32" only)</td><td>2S</td></tr> <tr><td>Solenoid Controlled & Check Feature</td><td>25</td></tr> <tr><td>Pressure Reducing Feature</td><td>2Q</td></tr> <tr><td>Two-Stage Opening</td><td>30</td></tr> <tr><td>Relief Override</td><td>3Q</td></tr> <tr><td>Electrically Selected Multi-Level Setting</td><td>45</td></tr> <tr><td>Downstream Over Pressure Guard</td><td>48</td></tr> <tr><td>Closing Surge Prevention</td><td>49</td></tr> <tr><td>Motorized Pilot</td><td>4S</td></tr> <tr><td>Electronic Multi-Level Setting - Type 4R</td><td>4R</td></tr> <tr><td>Electronic Multi-Level Setting - Type 4T</td><td>4T</td></tr> <tr><td>2-Way Hydraulic Relay</td><td>50</td></tr> <tr><td>3-Way Hydraulic Relay</td><td>54</td></tr> <tr><td>Solenoid Controlled</td><td>55</td></tr> <tr><td>Electric Override</td><td>59</td></tr> <tr><td>Modulating Horizontal Float</td><td>60</td></tr> <tr><td>Bi-Level Electric Float</td><td>65</td></tr> <tr><td>Bi-Level Vertical Float</td><td>66</td></tr> <tr><td>Modulating Vertical Float</td><td>67</td></tr> <tr><td>Bi-Directional Flow</td><td>70</td></tr> <tr><td>Altitude Pilot</td><td>80*</td></tr> <tr><td>Modulating Altitude Control</td><td>82*</td></tr> <tr><td>Sustaining Altitude Pilot</td><td>83*</td></tr> <tr><td>Hydraulic Positioning</td><td>85*</td></tr> <tr><td>Bi-Level Altitude Control</td><td>86*</td></tr> <tr><td>Altitude Control with Bi-Directional Flow</td><td>87*</td></tr> <tr> <td rowspan="5">Setting Range</td> <td>2-6 meter; 7-20 feet Setting</td> <td>M1</td> </tr> <tr> <td>2-14 meter; 7-46 feet Setting</td> <td>M6</td> </tr> <tr> <td>5-22 meter; 17-72 feet Setting</td> <td>M5</td> </tr> <tr> <td>15-35 meter; 49-115 feet Setting</td> <td>M4</td> </tr> <tr> <td>25-70 meter; 82-230 feet Setting</td> <td>M8</td> </tr> <tr><td>Closing at Downstream Pressure Drop</td><td>91</td></tr> <tr><td>Cavitation Cage</td><td>C1</td></tr> <tr><td>Double Cavitation Cage</td><td>C2</td></tr> <tr><td>Triple Chamber Valve</td><td>TC</td></tr> <tr><td>Panel Mounted Control</td><td>L1</td></tr> <tr><td>PRV Low Flow By-Pass</td><td>2B</td></tr> <tr><td>Proportional</td><td>PD</td></tr> </tbody> </table>						Additional Feature (Multiple Options Permitted)	Code	No Additional Feature	00	Closing and Opening Speed Control	03	Differential Pressure	06	Hydraulic Override	09	Check-Lock	11	High Sensitivity Pilot	12*	Electronic Control	18	Check Feature	20	Independent Flow Check (24-32" only)	2S	Solenoid Controlled & Check Feature	25	Pressure Reducing Feature	2Q	Two-Stage Opening	30	Relief Override	3Q	Electrically Selected Multi-Level Setting	45	Downstream Over Pressure Guard	48	Closing Surge Prevention	49	Motorized Pilot	4S	Electronic Multi-Level Setting - Type 4R	4R	Electronic Multi-Level Setting - Type 4T	4T	2-Way Hydraulic Relay	50	3-Way Hydraulic Relay	54	Solenoid Controlled	55	Electric Override	59	Modulating Horizontal Float	60	Bi-Level Electric Float	65	Bi-Level Vertical Float	66	Modulating Vertical Float	67	Bi-Directional Flow	70	Altitude Pilot	80*	Modulating Altitude Control	82*	Sustaining Altitude Pilot	83*	Hydraulic Positioning	85*	Bi-Level Altitude Control	86*	Altitude Control with Bi-Directional Flow	87*	Setting Range	2-6 meter; 7-20 feet Setting	M1	2-14 meter; 7-46 feet Setting	M6	5-22 meter; 17-72 feet Setting	M5	15-35 meter; 49-115 feet Setting	M4	25-70 meter; 82-230 feet Setting	M8	Closing at Downstream Pressure Drop	91	Cavitation Cage	C1	Double Cavitation Cage	C2	Triple Chamber Valve	TC	Panel Mounted Control	L1	PRV Low Flow By-Pass	2B	Proportional	PD										
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Setting Range	2-6 meter; 7-20 feet Setting	M1																																																																																																																																																		
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	15-35 meter; 49-115 feet Setting	M4																																																																																																																																																		
	25-70 meter; 82-230 feet Setting	M8																																																																																																																																																		
Closing at Downstream Pressure Drop	91																																																																																																																																																			
Cavitation Cage	C1																																																																																																																																																			
Double Cavitation Cage	C2																																																																																																																																																			
Triple Chamber Valve	TC																																																																																																																																																			
Panel Mounted Control	L1																																																																																																																																																			
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Other primary features available on request.

Other additional features available on request.
* Select Setting Range





I6

PG

4AC

NN

F

End Connection		Code	
Flanged	ISO-PN10	10	
	ISO-PN16	16	
	ISO-PN25	25	
	ANSI-#150	A5	
	ANSI-#300	A3	
	BST-D	BD	
	JIS-7.5	J7	
	JIS-10	J1	
Threaded	JIS-16	J6	
	JIS-20	J2	
	BSP	(up to 3") BP	
	BSP-25 bar		PH
	NPT		NP
	NPT-25 bar		NH

Other end connections available on request.

Voltage-Main Valve Position (When Solenoid De-energized)		Code			
24V	AC	24VAC/50Hz - Normally Closed	4AC		
		24VAC/50Hz - Normally Open	4AO		
		24VAC/50Hz - Last Position	4AP		
		24VAC/60Hz - Normally Closed	46C		
		24VAC/60Hz - Normally Open	46O		
	DC	24VDC - Normally Closed	4DC		
		24VDC - Normally Open	4DO		
		24VDC - Last Position	4DP		
		24VDC - Latch Solenoid	4DS		
		220V	AC	220VAC/50-60Hz - Last Position	2AP
220VAC/50-60Hz - Normally Closed	2AC				
220VAC/50-60Hz - Normally Open	2AO				
DC	220VDC - Normally Closed		2DC		
	220VDC - Normally Open		2DO		
	220VDC - Latch Solenoid		2DS		
	110V		AC	110VAC/50-60Hz - Normally Closed	5AC
				110VAC/50-60Hz - Normally Open	5AO
			DC	110VDC - Normally Closed	5DC
110VDC - Normally Open		5DO			
110VDC - Latch Solenoid		5DS			
12V		DC		12VDC - Normally Closed	1DC
	12VDC - Normally Open		1DO		
	12VDC - Last Position		1DP		
	12VDC - Latch Solenoid		1DS		

Tubing & Fittings	Code
Copper Tubing & Brass Fittings	CB
St. St. 316 Tubing & Fittings	NN
Plastic Reinforced Tubing & Brass Fittings	PB
Monel Tubing & Fittings	MM

Additional Attributes (Multiple Options Permitted)	Code
V-Port Throttling Plug	V
Large Control Filter	F
Valve Position Indicator	I
Electric Limit Switch	S
Valve Position Transmitter	Q
Flow Stem	M
Lifting Spring	L
Balancing Piston Assembly	G
Orifice Assembly	U
Pressure Separator	d
Double Chambered (Active)	B
External Control Pressure	e
3-Way Control	X
Manual Selector	Z
Flow Over the Seat	O
St. St. 316 Control Accessories	N
St. St. 316 Actuator Internal Assembly	D
St. St. 316 Internal Trim (Closure & Seat)	T
Delrin Bearing	R
PVDF Bearing	r
High Grade Bearing & Stem	K
St. St 316. Bolts & Nuts	m
Special Elastomers for Seals & Diaphragm	E
Pressure Gauge	6

Other additional attributes are optional. Please consult our sales department for further information.

Reduction Ratios Table

Valve Size	Plug Type	
	Flat Disk	V-Port
1 1/2 - 2 1/2" DN40 - 65	3.7	4
3" DN80	2.6	2.9
4" DN100	2.5	2.8
6" DN150	2.5	2.7
8" DN200	2.4	2.6
10" DN250	2.3	2.5
12-14" DN300 - 350	2.2	2.4
16-20" DN400 - 500	2.2	2.3
24-36" DN600 - 900	2.2	2.3

- The reduction ratios are based on flow velocity of 2.0-3.0 m/sec.
- Reduction ratio may vary at extreme flow velocity & upstream pressure.

Coating	Code
Polyester Green RAL 6017	PG
Epoxy FB Blue RAL 5005	EB
Polyester Blue RAL 5010	PB
Uncoated	UC

Other coatings available on request.

Order all Bermad products from www.irrigationglobal.com

700 Series Hydraulic Control Valves for Waterworks Systems

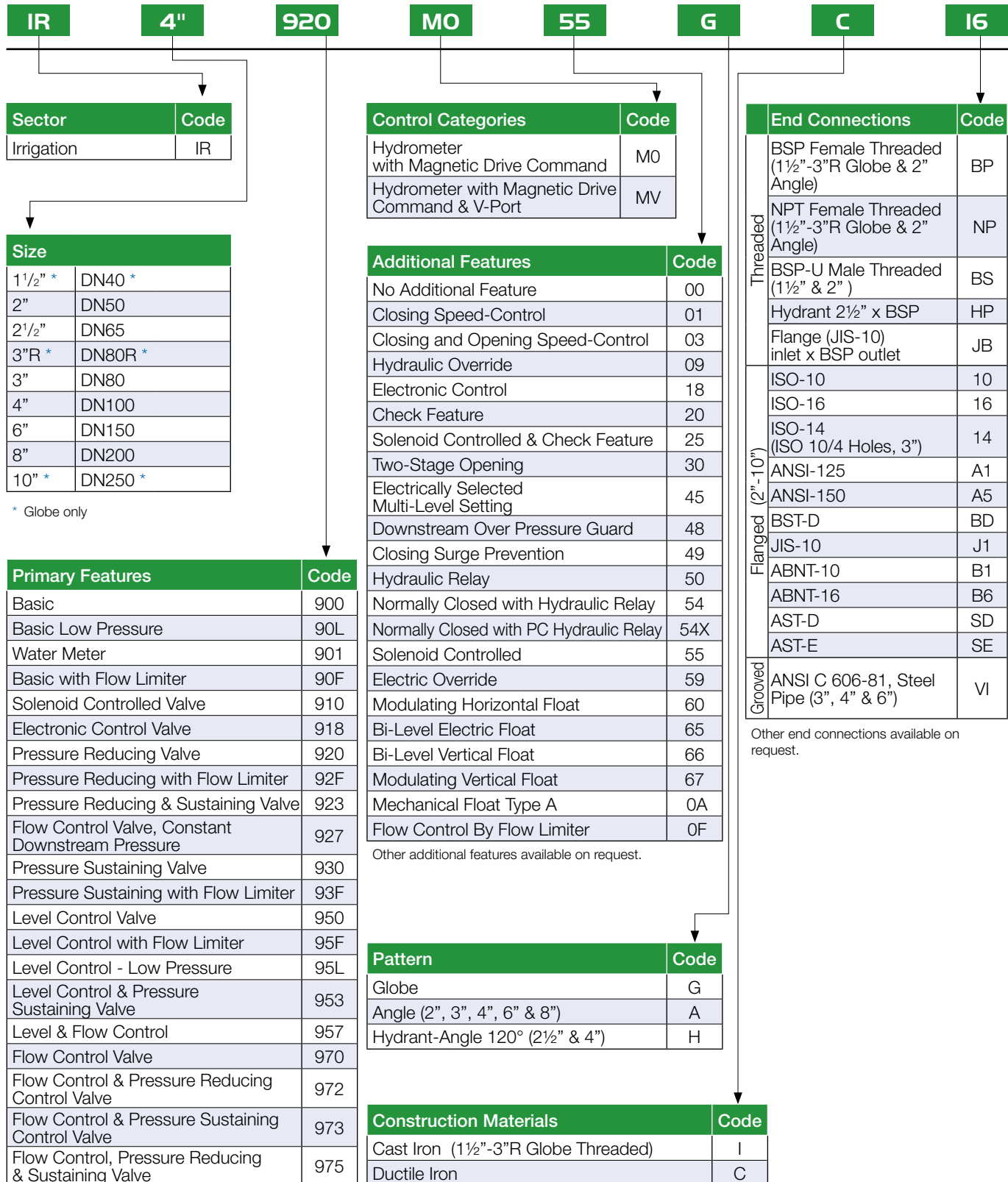


BERMAD Irrigation



Hydrometers with Magnetic Drive

900-M Series

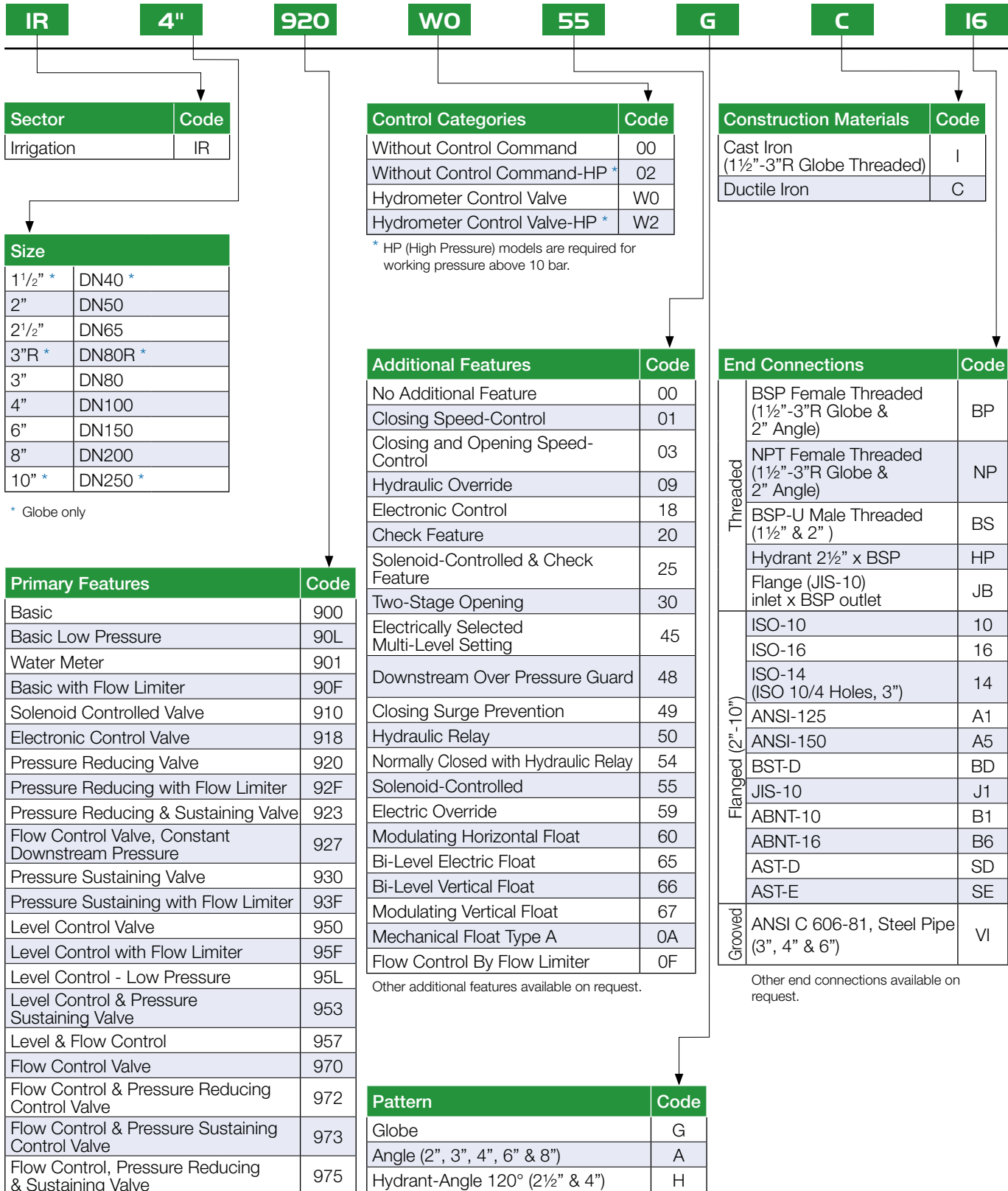


BERMAD Irrigation



Hydrometers with Mechanic Drive

900-W Series

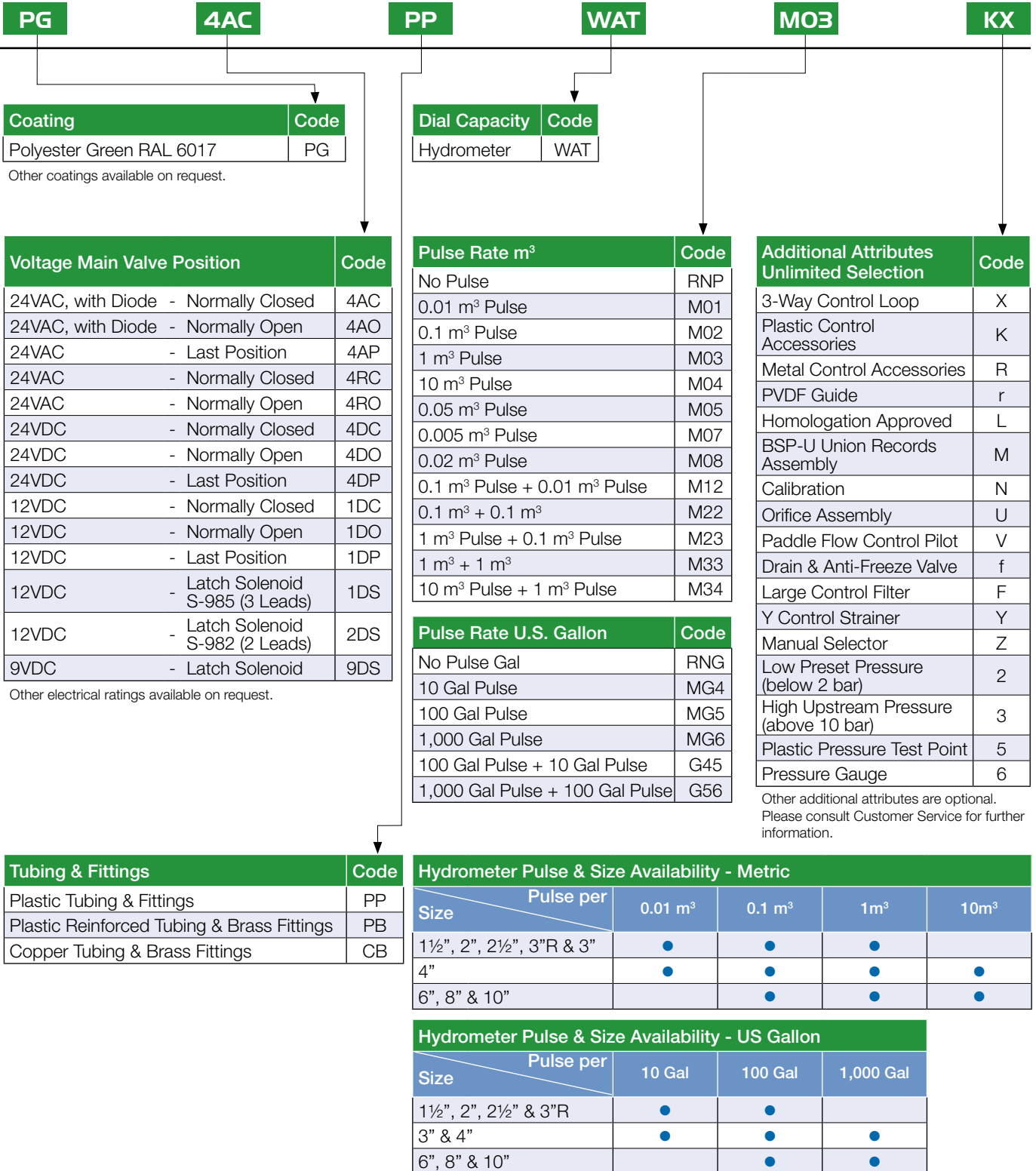


BERMAD Irrigation



Hydrometers with Mechanic Drive

900-W Series



Note: Pulse combinations are available according to "Pulse Rate Table".

Order all Bermad products from www.irrigationglobal.com

900-W Series Hydrometers with Mechanical Drive 10

04.2010

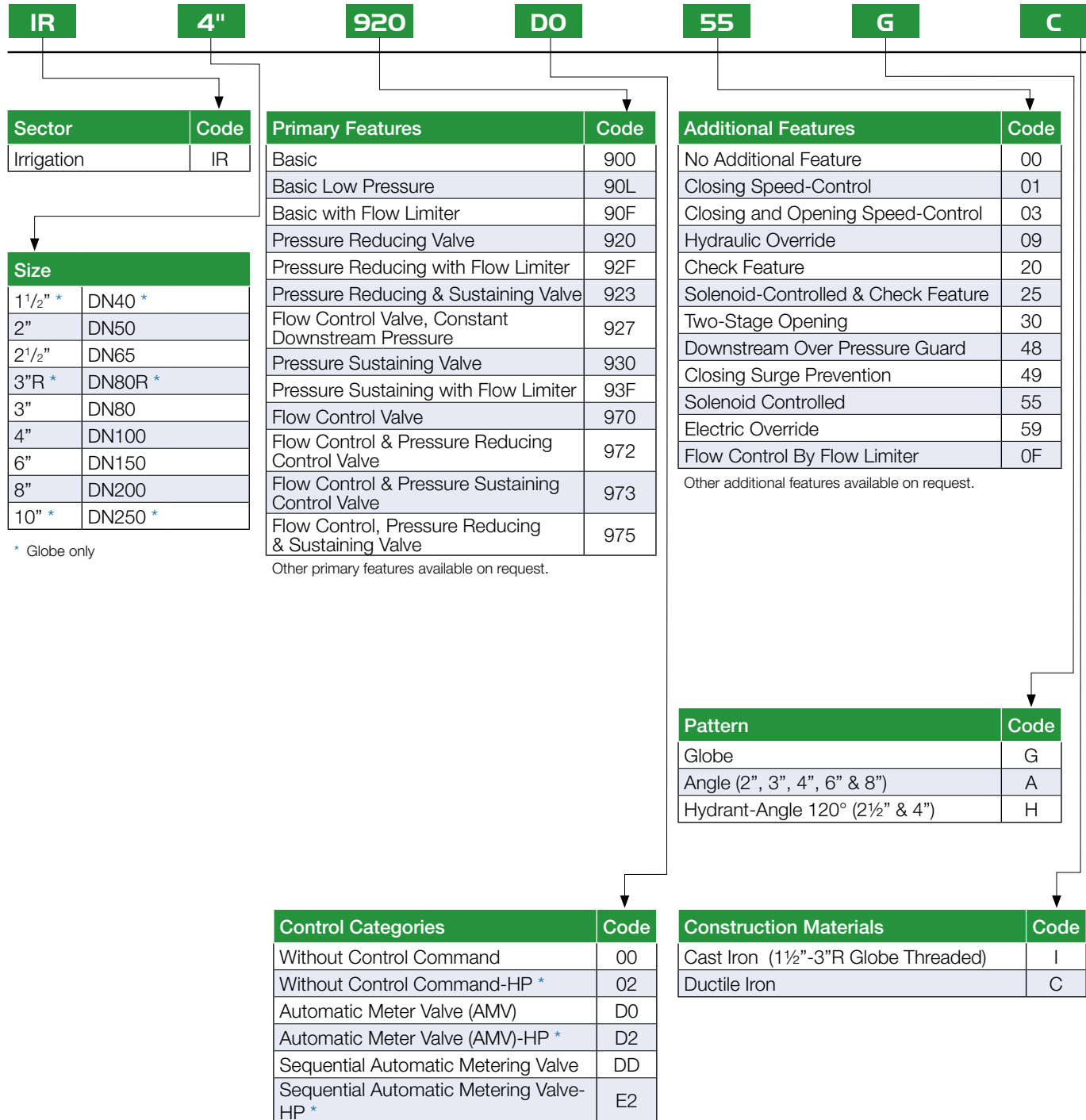


BERMAD Irrigation



Automatic Metering Valves (AMV)

900-D Series



BERMAD Irrigation



Automatic Metering Valves (AMV)

900-D Series

I6	PG	4AC	PP	800	AMV	KX																																																																																																																																																						
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Order all Bermad products from www.irrigationglobal.com

900-D Series Automatic Metering Valves (AMV's)

04.2010





Turbo-IR-A

Type
Turbo-IR-A

Size	
2"	DN50
2½"	DN65
3"	DN80
4"	DN100
5"	DN125
6"	DN150
8"	DN200
10"	DN250
12"	DN300

End Connections	Code
ISO-10	10
ISO-16	16
ISO-14 (ISO 10/4 Holes, 3")	14
ANSI-125	A1
BST-D	BD
AST-D	SD
AST-E	SE
ABNT-10	B1
ABNT-16	B6
JIS-10	J1
JIS-16	J6

Other end connections available on request.

3"

16

PG

M3

S3

Measure Units	Code
Polyester Green	PG

Measure Units	Code
Cubic Meter	M3

Pulse Type	Pulse Rate	Code
No Pulse*	Pulse Preparation	Y
Reed Switch - 1 Pulse	Reed 0.1 m ³	S3
	Reed 1 m ³	S2
	Reed 10 m ³	S1
Reed Switch - 2 Pulses	Reed 1 m ³ + 0.1 m ³	S23
	Reed 10 m ³ + 1 m ³	S12

* When ordering "No Pulse" (Pulse Preparation) write "Y" & the possible future Pulse Rate
Example: Turbo-IR-A-3"-16-PG-M3-Y/S3

Turbo-IR Pulse Rate				
Size	One pulse per	0.1 m ³	1 m ³	10 m ³
2", 2½", 3", 4", 5"		▲	▲	
6", 8", 10", 12"			▲	▲

▲ Reed-switch

Note: Pulse combinations are available according to "Pulse Rate Table".

BERMAD Irrigation



Woltman Turbine Type

Turbo-Bar WPH

Turbo-Bar WPH

4"

16

PB

M3

S3

Size		End Connections		Code	Coating	Code	Meter Units		Code
1 1/2"	DN40	ISO-10		10	Polyester Blue RAL 5010	PB	U.S. Gallon	Gal	
2"	DN50	ISO-16		16	Epoxy FB Blue RAL 5005 (up to 6")	EB	Cubic Meter	M3	
2 1/2"	DN65	ISO-14 (ISO 10/4 Holes, 3")		14					
3"	DN80	ANSI-125		A1					
4"	DN100	BST-D		BD					
5"	DN125	AST-D		SD					
6"	DN150	AST-E		SE					
8"	DN200	ABNT-10		B1					
10"	DN250	ABNT-16		B6					
12"	DN300	JIS-10		J1					
16"	DN400	JIS-16		J6					
20"	DN500								

Other end connections available on request.

Pulse Type	Pulse Rate m ³	Code
No Pulse*	Pulse Preparation	Y
Reed Switch 1 Pulse	Reed 0.01 m ³	S4
	Reed 0.1 m ³	S3
	Reed 1 m ³	S2
	Reed 10 m ³	S1
	Reed 100 m ³	S8
Reed Switch 2 Pulses	Reed 0.1 m ³ + 0.01 m ³	S34
	Reed 1 m ³ + 0.1 m ³	S23
	Reed 10 m ³ + 1 m ³	S12
	Reed 100 m ³ + 10 m ³	S81
Opto Sensor	Opto 0.001 m ³	SA
	Opto 0.01 m ³	SB
	Opto 0.1 m ³	SC
Opto + Reed	0.001 m ³ Opto + 0.1 m ³ Reed	SA3
	0.001 m ³ Opto + 1 m ³ Reed	SA2
	0.01 m ³ Opto + 1 m ³ Reed	SB2
	0.01 m ³ Opto + 10 m ³ Reed	SB1
	0.1 m ³ Opto + 10 m ³ Reed	SC1
	0.1 m ³ Opto + 100 m ³ Reed	SC8

Pulse Type	Pulse Rate U.S. Gallon	Code
No Pulse*	Pulse Preparation	Y
Reed Switch 1 Pulse	Reed 1 Gal	S4
	Reed 10 Gal	S3
	Reed 100 Gal	S2
	Reed 1,000 Gal	S1
	Reed 10,000 Gal	S8
	Reed Switch 2 Pulses	Reed 10 Gal + 1 Gal
Reed 100 Gal + 10 Gal		S23
Reed 1,000 Gal + 100 Gal		S12
Reed 10,000 Gal + 1,000 Gal		S81
Opto Sensor	Opto 0.1 Gal	SA
	Opto 1 Gal	SB
	Opto 10 Gal	SC
Opto + Reed	0.1 Gal Opto + 10 Gal Reed	SA3
	0.1 Gal Opto + 100 Gal Reed	SA2
	1 Gal Opto + 100 Gal Reed	SB2
	1 Gal Opto + 1,000 Gal Reed	SB1
	10 Gal Opto + 1,000 Gal Reed	SC1
	10 Gal Opto + 10,000 Gal Reed	SC8

* When ordering "No Pulse" (Pulse Preparation) write "Y" & the possible future Pulse Rate
 Example: Turbo-Bar WPH-4"-16-PG-M3-Y/S3

Turbo-Bar Pulse & Size Availability - Metric							
Size	One pulse per	Pulse Rate					
		0.001 m ³	0.01 m ³	0.1 m ³	1m ³	10m ³	100m ³
1 1/2", 2", 2 1/2", 3", 4", 5"		■	▲	▲	▲		
6", 8"			■	▲	▲	▲	
10"			■	▲	■	▲	▲
12", 16", 20"				■	▲	▲	▲

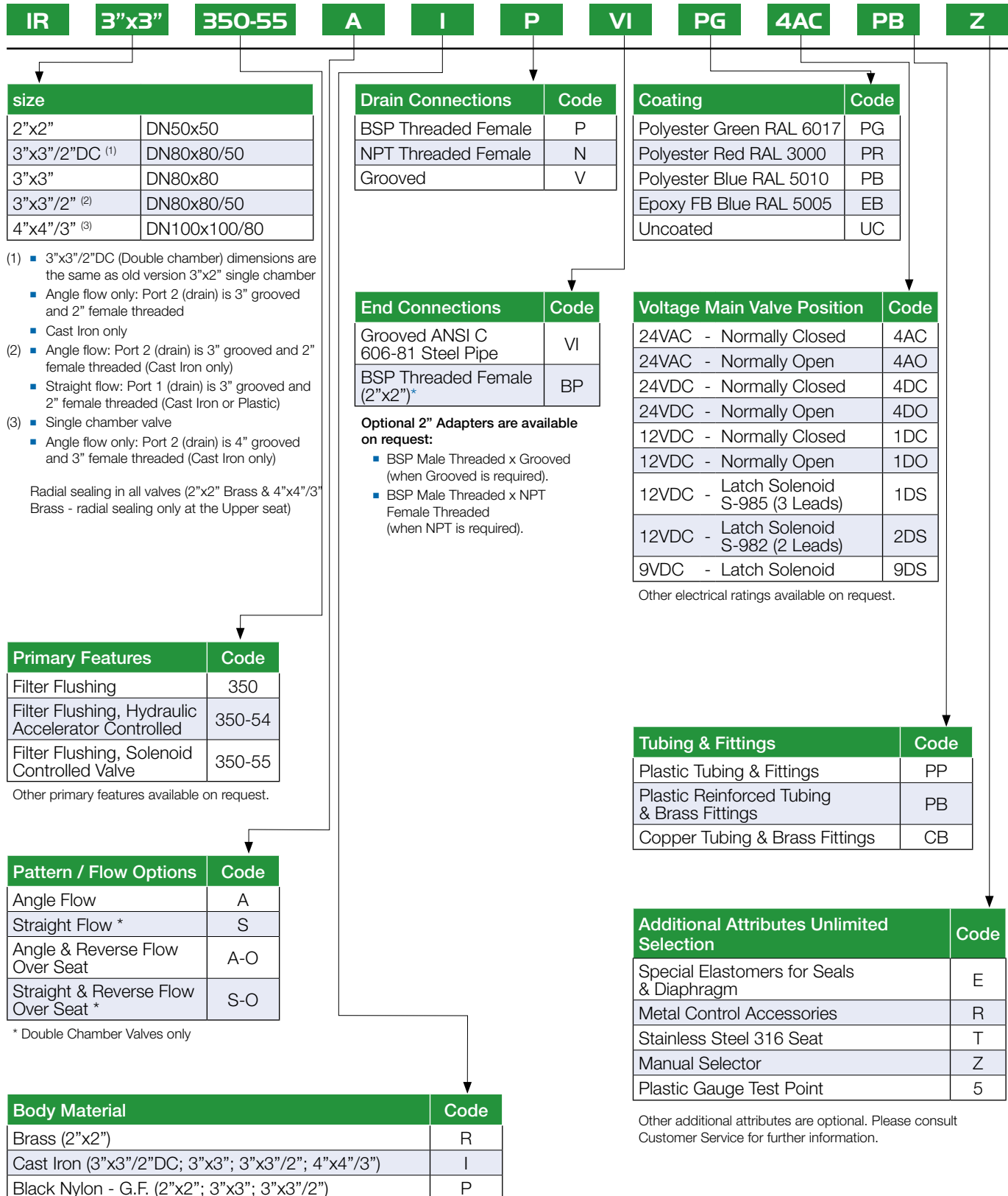
Turbo-Bar Pulse & Size Availability - US Gallon						
Size	One pulse per	Pulse Rate				
		1 Gal	10 Gal	100 Gal	1,000 Gal	10,000 Gal
1 1/2" - 6"		■	▲	▲	▲	
8" - 20"			■	▲	▲	▲

- ▲ Reed Switch (standard)
- Opto Electric (standard)
- ▲ Reed Switch (on request)
- Opto Electric (on request)

Note: Pulse combinations are available according to "Pulse Rate Table"

Order Bermad products from www.irrigationglobal.com
 Turbo-Bar Water Meters, Woltman Turbine Type





BERMAD Irrigation



Diaphragm Hydraulic Control Valves - PN 10

GR 400 Series

GR **1 1/2"** **420** **55** **G** **R** **BP** **3W** **PCP** **4AC** **PP** **Z**

Size		
3/4"	DN20	On/Off
1"	DN25	
1 1/2"	DN40	
2"	DN50	

Primary Features	Code
Basic Valve	405
Basic Hydraulic with Union Record	40R
Solenoid Controlled Valve	410
Pressure Reducing Valve	420
Pressure Reducing Valve with Union Record	42R
Pressure Reducing & Sustaining Valve	423
Pressure Sustaining Valve	430
Quick Pressure Relief Valve	43Q

Other primary features available on request.

Additional Features	Code
No Additional Features	00
Hydraulic Relay	50
Normally Closed with Hydraulic Relay	54
Solenoid Controlled	55
Relief Override	3Q

Pattern	Code
Globe	G

Body Material	Code
Brass	R

End Connections	Code
BSP Female Threaded	BP
NPT Female Threaded	NP
BSP-U Male Threaded inlet (1"-2")	BS
NPT-U Male Threaded inlet (1"-2")	NS

Control Type	Code
2-Way	2W
3-Way	3W
2/3-Way	2/3W

Mini Pilot Material	Code
Plastic	PCP (Standard)
Metal	PCM

Voltage-Main Valve Position (When Solenoid De-Energized)	Code
24VAC - Normally Closed	4AC
24VAC - Normally Open	4AO
24VDC - Normally Closed	4DC
24VDC - Normally Open	4DO
12VDC - Normally Closed	1DC
12VDC - Normally Open	1DO
12VDC - Latch Solenoid S-985 (3 Leads)	1DS
12VDC - Latch Solenoid S-982 (2 Leads)	2DS
9VDC - Latch Solenoid	9DS

Other electrical ratings available on request.

Tubing & Fittings	Code
Plastic Tubing & Fittings	PP
Plastic Reinforced Tubing & Brass Fittings	PB
Copper Tubing & Brass Fittings	CB

Additional Attributes Unlimited Selection	Code
Servo (2/3-Way Control Loop)	b
3-Way Control Loop	X
Plastic Control Accessories	K
Metal Control Accessories	R
Manual Selector	Z
Low Preset Pressure (below 2 bar)	2
Plastic Gauge Test Point	5

Other additional attributes are optional. Please consult Customer Service for further information.

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GR 400 Series Diaphragm Hydraulic Control Valves - PN 10 (Brass)

04.2010

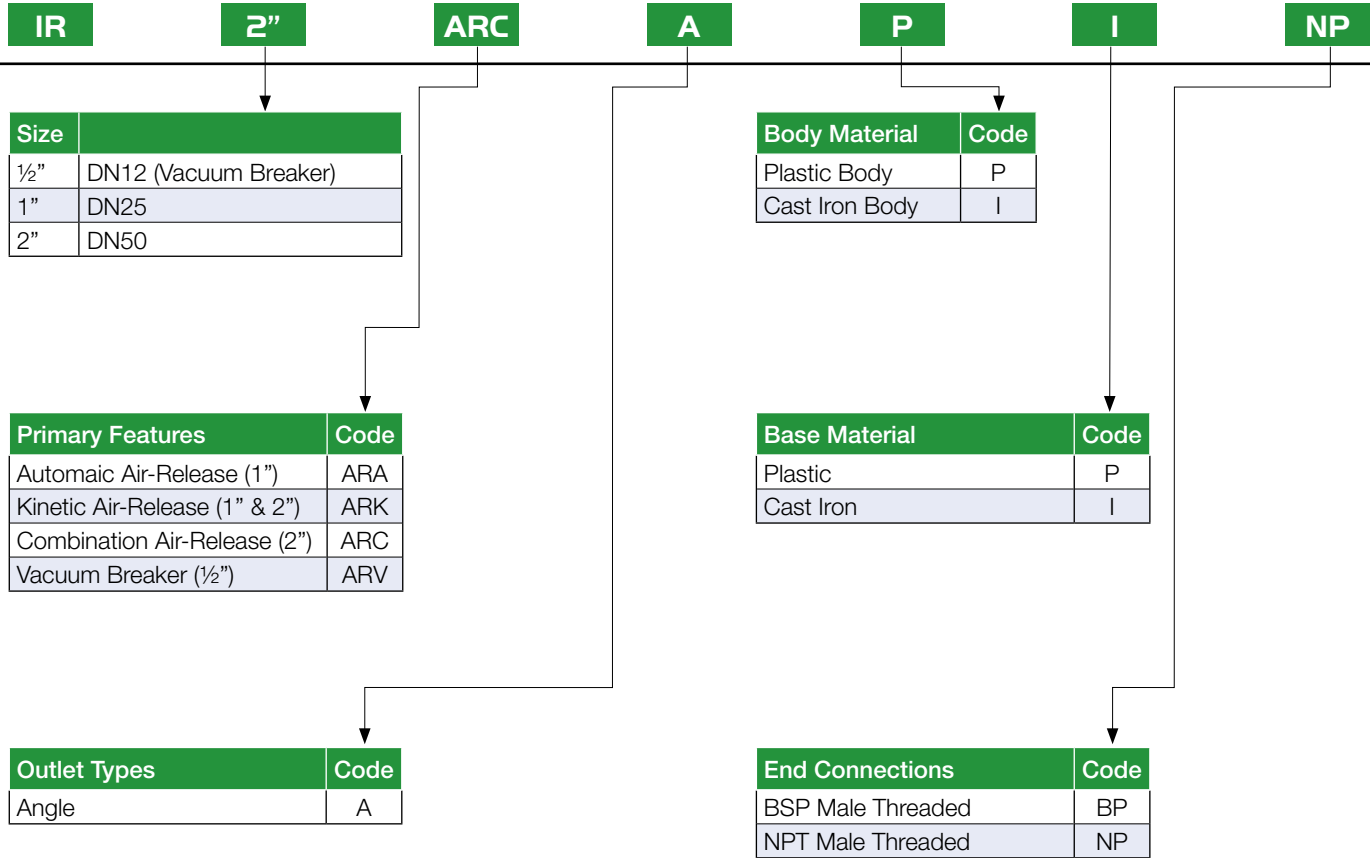


BERMAD Irrigation



Air & Vacuum Release Valves

AR Series



BERMAD Irrigation



Adjustable Direct-Acting Pressure Reducers

PRV Series

IR **¾"** **PRV** **05** **FF** **P** **BP** **L** **A**

Size	
¾"	DN20
1"	DN25
1½"	DN40
2"	DN50

Model	Code
Adjustable Direct Acting Pressure Reducers	PRV

Flow Rate Ranges	Code
Standard	00
Low Flow	05
Drip-Tight Sealing & Low Flow (1", 1½", 2")	07

Connection Categories	Code
Female-Female	FF
Male-Female (¾")	MF

Body Material	Code
Plastic (¾", 1" & 1½")	P
Brass (1½" & 2")	R

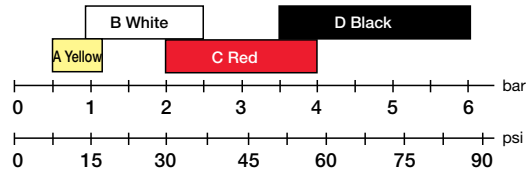
End Connections	Code
Threaded BSP	BP
Threaded NPT	NP

Optional Features	Code
Flow Stem (1") *	M
Flow Straightener (¾" Male-Female)	L

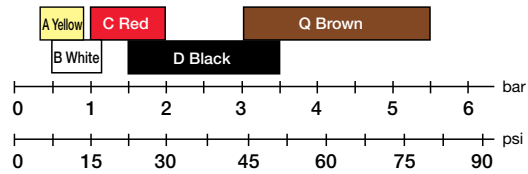
* 1" PRV 07 with Flow Stem is **Standard Flow** & Drip Tight Sealing

Springs	Code
Use Spring Selection Diagram according to Size & Pressure Range	A
	B
	C
	D
	Q

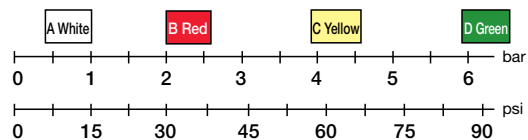
¾" Springs Selection Diagram & Pressure Range		
Spring	Pressure Range - bar	Pressure Range - psi
A	0.5 - 1.2	7 - 18
B	0.8 - 2.5	12 - 36
C	2.0 - 4.0	29 - 58
D	3.5 - 6.0	50 - 87



1" - 1½" Springs Selection Diagram & Pressure Range		
Spring	Pressure Range - bar	Pressure Range - psi
A	0.3 - 0.8	4 - 12
B	0.5 - 1.2	7 - 18
C	1.0 - 2.0	14 - 29
D	1.5 - 3.5	22 - 51
Q	3.0 - 5.5	44 - 80



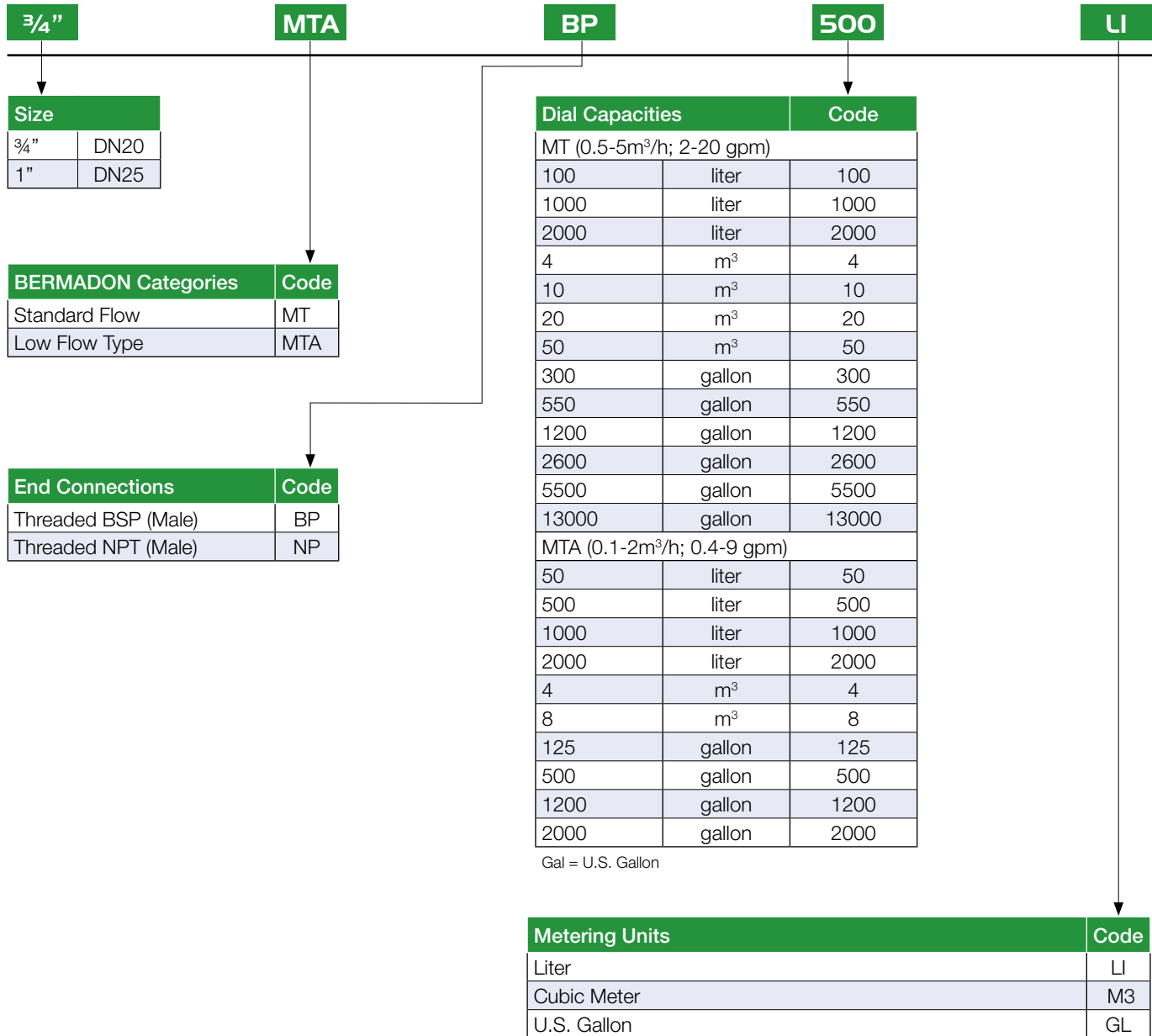
2" Springs Selection Diagram & Pressure Range		
Spring	Pressure Range - bar	Pressure Range - psi
A	10 - 25	14.5 - 36
B	2.0 - 2.6	29 - 38
C	3.8 - 4.6	55 - 67
D	5.8 - 6.6	84 - 96



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PRV Series Adjustable Direct-Acting Pressure Reducers







S	400	3W	24	AC-D	NC	BB																																												
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Solenoid Pilot Valves Manifold

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S Series Solenoid Pilot Valves & Manifolds

BERMAD Irrigation



Mini-Pilots/Pilots

Mini-Pilots/Pilots

Plastic Mini-Pilots (For IR PN10 Valves, Size Range 1.5" - 4")	Code	Standard Spring
3-Way Multi-Purpose Mini Pilot - Plastic	PC-X-A-P	H
3-Way Differential Mini Pilot - Plastic	PC-XD-A-P	J
2-Way Pressure Reducing Mini Pilot - Plastic	PC-20-A-P	H
2-Way Differential Pressure Reducing Mini Pilot - Plastic	PC-2D-A-P	J
2-Way Pressure Sustaining Mini Pilot - Plastic	PC-30-A-P	H
2-Way Pressure Relief (Quick Type) Mini Pilot - Plastic	PC-3Q-A-P	H
2/3-Way Mini Pilot "Servo" - Plastic	PC-S-A-P	K
2/3-Way Differential Pressure Sensing/Flow Mini Pilot "Servo" - Plastic	PC-SD-A-P	J
Flow Pilot (Paddle Type) - Plastic	PC-70-P	



Plastic Mini-Pilot - Spring Table		
Spring	Pressure Range	
	bar	psi
H - Orange	1-7	15-100
N - Natural (S.S)	0.8-6.5	11-95
K - Gray	0.5-3	7-40
J - Green	0.2-1.7	3-25

Metal Mini-Pilots (For IR PN16 Valves, Size Range 1.5" - 4")	Code	Standard Spring
3-Way Multi-Purpose Mini Pilot - Metal	PC-X-A-M	G
3-Way Differential Mini Pilot - Metal	PC-XD-A-M	J
2-Way Pressure Reducing Mini Pilot - Metal	PC-20-A-M	G
2-Way Differential Pressure Reducing Mini Pilot - Metal	PC-2D-A-M	J
2-Way Pressure Sustaining Mini Pilot - Metal	PC-30-A-M	G
2-Way Differential Pressure Sustaining Mini Pilot - Metal	PC-3D-A-M	K
2-Way Pressure Relief (Quick Type) Mini Pilot - Metal	PC-3Q-A-M	G
2/3-Way Mini Pilot "Servo" - Metal	PC-S-A-M	K
2/3-Way Differential Pressure Sensing/Flow Mini Pilot "Servo" - Metal	PC-SD-A-M	J
Flow Pilot (Paddle Type) - Metal, Size Range 1.5"-10"	PC-70-M	



Metal Mini-Pilot - Spring Table		
Spring	Pressure Range	
	bar	psi
M - Brown	1-16	15-230
G - Blue	1-10/12	15-145/175
H - Orange	1-7	15-100
N - Natural (S.S)	0.8-6.5	11-95
K - Gray	0.5-3	7-40
J - Green	0.2-1.7	3-25

Metal # Pilots (For IR PN16 Valves, Size Range 6" - 16")	Code	Standard Spring
2-Way Pressure Reducing Pilot - Brass	#2	16
2-Way Pressure Sustaining Pilot - Brass	#3	16
2-Way Differential Pressure Sensing/Flow Pilot - Brass	#2D	10
3-Way Positioning, Multi-Purpose Pilot - Brass	#X	16
3-Way Positioning, Differential Multi-Purpose Pilot - Brass	#XD	10
2-Way Pressure Sustaining/Relief Pilot - Brass	#3HC-R	16



Metal # Pilots - Spring Table		
Spring	Pressure Range	
	bar	psi
16 (Blue)	1-16	15-230
10 (Natural)	0.8-10	11-150
16*	2-30	30-430
16*	2-45	30-650

When ordering Pilots, add Description to Code

* with high pressure setting kit

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Mini Pilots / Pilots Plastic and Metal Mini Pilots / Metal Pilots





AMV - (900-D Series) Shut-Off Pilots	Code
AMV Shut-Off Pilot	3W-SOP
AMV Sequential 5-Way Shut-Off Pilot	5W-SSOP
AMV Shut-Off Pilot with Pump Shut-Off Electrical Switch	3W-SOP-S

When ordering Pilots, add Description to Code

Plastic Float (For IR PN10 Valves, Size Range 1.5" - 4")	Code
Modulating Horizontal Float Assembly - Plastic	#60P

Metal Float (For IR PN16 Valves, Size Range 1.5" - 16")	Code
Modulating Horizontal Float Assembly - Metal	#60M
Electric Float Switch	#65
4-Way Bi-Level Vertical Float Assembly	#66
Modulating 2-Way Vertical Float Assembly	#67

Plastic Accessories - K (For IR PN10 Valves, Size Range 1.5" - 4")	Item#	Code
Plastic Hydraulic Relay Valve (HRV) 2-Way 1/8"	5008651100	50-P
Plastic Hydraulic Relay Valve, 3-Way (3W-HRV) 1/8"		54-PZ
Plastic Shuttle Valve 8 x 1/8" x 8	1408600800	50-X-P
Black Plastic In-Line Filter (old) 1/4" x 1/8"	9004033000	
Grey Plastic In-Line Filter 1/4" x 1/8"	9004080700	-
Grey Plastic In-Line Filter 1/4" x 1/8" Short	900408S600	-
Plastic One-Way Flow Control 1/8"	1408782500	-
Plastic Check Valve 8mm	1408782000	20-P
Drain & Anti-Freeze Valve 1/4"	9004060000	f
Drain & Anti-Freeze Valve 3/8"	9038060000	
Drain & Anti-Freeze Valve 1/2"	9002060000	
Gauge Test-Point	3604040600	5

Metal Accessories - R (For IR PN16 Valves)	Code
Metal Hydraulic Relay Valve (HRV) 2-Way 3/8"	50-M
Metal Hydraulic Relay Valve 3-Way (3W-HRV) 3/8"	54-M
Metal Shuttle Valve 1/4" / 1/8"	50-X-M
Manual Selector, 3-Positions 4-Way, 1/8"	Z-SY3
Manual Selector, 3-Positions 4-Way, 1/4"	Z-SY6
Metal In-Line Filter, S.S 316 Body 1/4" / 3/8" / 1/2"	C
"Y" Strainer Control Filter, 1/4" / 3/8" / 1/2" NPT Brass, 500 Micron	Y
Large Control Filter	F
Metal Needle Valve 1/4"	-
Metal One-Way Flow Control 1/4" / 3/8" / 1/2"	-
Metal Check Valve 1/4" / 3/8" / 1/2"	20-M
2-Way Ball Valve 1/4" / 3/8" / 1/2"	-
3-Way Ball Valve 1/4" / 3/8" / 1/2"	-
Manometer Ball Valve 1/8" / 1/4" / 3/8"	-
Pressure Gauge 0-6, 10, 16 & 25 bar (90, 140, 230 & 350 psi), Side Port 1/4"	6
Pressure Gauge 0-6, 10, 16 & 25 bar (90, 140, 230 & 350 psi) Back Port 1/4"	6
Needle for Manometer & Test-Point	-

When ordering Accessories, add Description to Code

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Bermad Hydraulic Accessories

End Connection Adapters for 100 Series		Item #
Flange Adapters	3"-3"L-IR (100-Y-P-FF), BLACK POLYAMID FLANGE ASSY.- KIT	113L060091-KIT
	4"-4"R-IR (100-Y-P-FF), BLACK POLYAMID FLANGE ASSY.- KIT	1140060091-KIT
	6"-IR (100-Y-P-BOXER), BLACK POLYAMID FLANGE ASSY.-KIT	1160060091-KIT
	3"-3"L-IR (100-Y-P-CC-PK), DUCTILE IRON, "CORONA" FLANGE ASSY.-KIT, COATED BLACK POLYESTER	113L0P0091-KIT
	4"-4"R-IR (100-Y-CC-PK), DUCTILE IRON, "CORONA" FLANGE ASSY.-KIT, COATED BLACK POLYESTER	11400P0091-KIT
PVC Cemented (glue-in) Adapters	3"-3"L (100 SERIES), PVC ADAPTER BSP MTH 3" X ID 75 MM - KIT	11300PV075 - KIT
	3"-3"L (100 SERIES), PVC ADAPTER NPT MTH 3" X ID 2 1/2" - KIT	11300PV025 - KIT
	3"-3"L (100 SERIES), PVC ADAPTER ID 90 MM / OD 110 MM - KIT	11300PV110 - KIT
	3"-3"L (100 SERIES), PVC ADAPTER ID 110 MM / OD 125 MM - KIT	11300PV125 - KIT
	3"-3"L (100 SERIES), PVC ADAPTER ID 3" / OD 4" - KIT	11300PV175 - KIT
	3"-3"L (100 SERIES), PVC ADAPTER ID 4" - KIT	11300PV100 - KIT
Victaulic (Grooved) Adapters	3"-3"L (100 SERIES), BLACK PA6 GROOVE ADAPTER 3" - KIT	113006V075 - KIT
	3"-3"L (100 SERIES), BLACK PA6 GROOVE ADAPTER 4" - KIT	113006V100 - KIT
PVC Horn Adapter	3" (100-HORN) PVC ADAPTOR FOR HORN LAYFLAT PIPE	1130PVCH60

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Bermad Hydraulic Accessories



	Description	Model Code	Item #
	Tube Straight Connector 8mm - 8mm	FT 88	3656005600
	Straight Connector 1/8"-8mm	FT 18	3608025600
	Straight Connector 1/4"-8mm	FT 78	3604025600
	Elbow Connector 1/8"-8mm	FT 28	3608015600
	Elbow Connector 1/4"-8mm	FT 58	3604015600
	1/8" NPT Male Plug	FT 38	3608070000
	1/4" NPT Male Plug	FT 34	3604070000
	3/8" NPT Male Plug	FT 32	3638070200
	1/2" BSPT Male Plug	FT 30	3602070000
	Bushing Male-Female 1/8" -1/8"	FT 11	3608050805
	Bushing Male-Female 1/4"-1/8"	FT 48	3604050805
	T-Connector For Tube 8mm-8mm-8mm	FT 98	360807T600
	T-Connector For Tube 8mm-1/8"-8mm	FT 98/1	360807B600
	T-Connector For Tube 8mm-8mm -1/8"	FT 98/2	360807R600
	Coupler For 8mm Tube 1/8"-8mm	FT 08	3608025602
	8mm Plastic Command Tube (Meter)	PP08	0756012000

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Bermad FT Series Control Tube Fittings