

Glenfield Valves Limited

**SERIES 641
RECOIL CHECK VALVES**



Glenfield

www.glenfield.co.uk



Glenfield Valves' manufacturing facilities are located at an 8 acre riverside location in Kilmarnock, Scotland. Since Glenfield Valves Ltd became part of The AVK Group in 2001 considerable investments have taken place in infrastructure improvements, product re-design to reflect improvements in operation, and the latest technology in machine tools and management information systems.

Glenfield Valves has always been a valve manufacturer with a global outlook and today is part of a leading valve manufacturer, complying to various international valve standards such as BS, EN, DIN, AWWA, AS, ISO etc.

Since Glenfield designed its first Fixed Cone Free Discharge Valve in 1950, we have been a highly rated supplier for Dams, Reservoirs and Hydro Power projects. Some of our many references are mentioned on page 15.

Our Aim is to become :

“Your Reliable Long Term Partner with Focus on Providing a Comprehensive Range of High Quality Valves for Flow Control Applications”

We will achieve this through our focused product management strategy, our innovative approach to design and manufacturing and long term reliance to our customers.



GLENFIELD SERIES 641 RECOIL CHECK VALVES AN ENGINEERED HIGH PERFORMANCE SOLUTION



Many check valves of conventional design behave perfectly satisfactorily in pumping or gravity systems, in which sluggish to moderately brisk flow reversal can occur. These are generally described as systems with low deceleration gradient and often comprise of single pump installation having low to moderate branch velocities.

There are, however, a growing proportion of systems with the potential for rapid flow reversal occurring. This introduces onerous reflux conditions which an ordinary check valve cannot operate effectively within.

Typical of the many active systems are pumping installations which adopt high branch velocities, and in addition, provide automatic stopping and starting delivery into a vertically rising main, have multi pump sets delivering in to a common main, or incorporate a pneumatic accumulator either for water storage or for surge suppression purposes.

All of these lively systems demand the use of a check valve which provides the highly perfected closing characteristic of the finely engineered Glenfield Recoil Check Valve. The valve possesses an extremely low reverse velocity potential and has the flexibility to adapt to varying system deceleration modes.

It is vitally important that a Check Valve which is intended to work in extreme conditions has incorporated within it every mechanical and hydraulic feature that can be directed towards accelerating the closing of the door. Through extensive laboratory testing, the Glenfield Valves Recoil Valve has been designed to achieve this characteristic.

GLENFIELD SERIES 641 RECOIL CHECK VALVES

Glenfield Valves Ltd Series 641 Recoil Check Valves are designed to ensure that rapid valve closure and resistance to door slam are achieved. It is through a combination of all of the following design features that results in the Glenfield Valves Series 641 Recoil Valve superior to conventional swing check valves.

All of these design features ensure that the Glenfield Series 641 Recoil Valve is superior to conventional swing check valve designs.

- Slope of the body face, and the door opening arc length.
- Weight of the door, and the manner in which the weight is distributed.
- Location of the hinge pin in relation to the plane of the faces.
- Large volume area around the door to reduce turbulence at the closure point.

Features

High Density Door

Integral Body/Door Unit

Frictionless Bearings

Voluminous Body

Selected Angular Travel

Minimum Reverse Velocity

Flexible Closure Time

Benefits

Maximum Closing Force

Accurate Alignment

Fast Operation

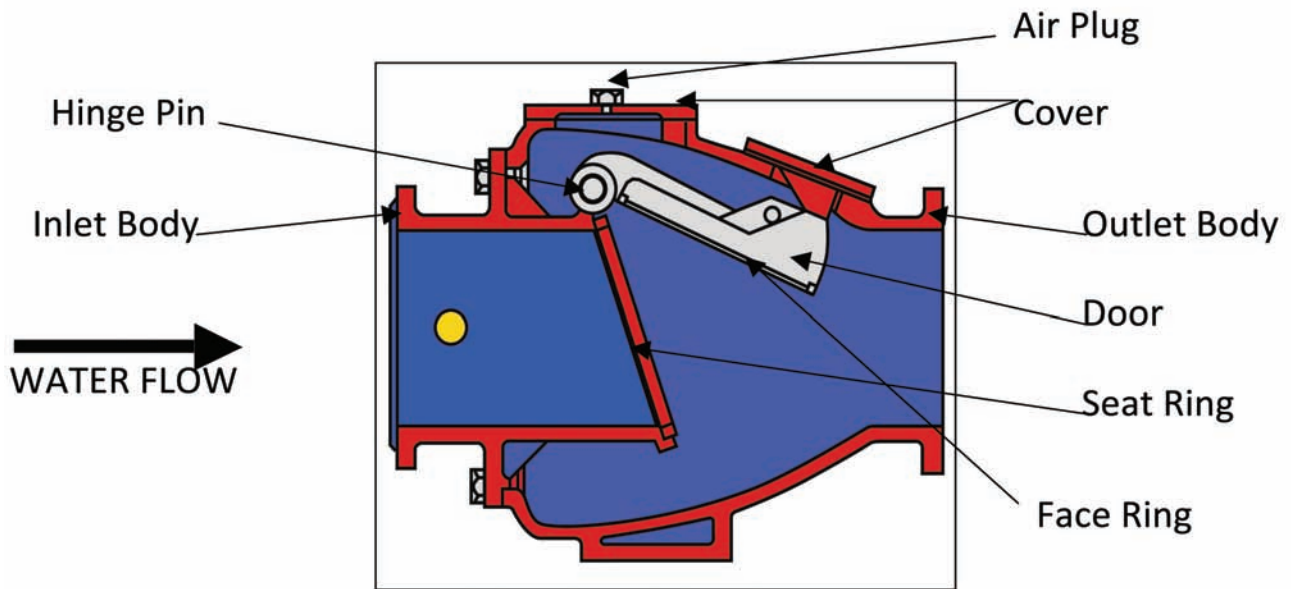
Minimum Hydraulic Resistance

Optimum Arc Length

Faster closing time

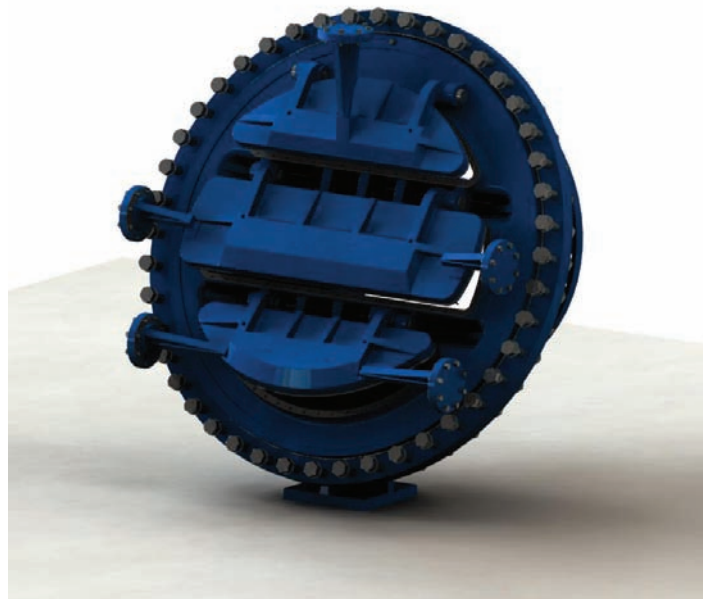
Perfect System Match

CROSS-SECTIONAL DETAIL OF DN350 – DN500 SINGLE DOOR DESIGN

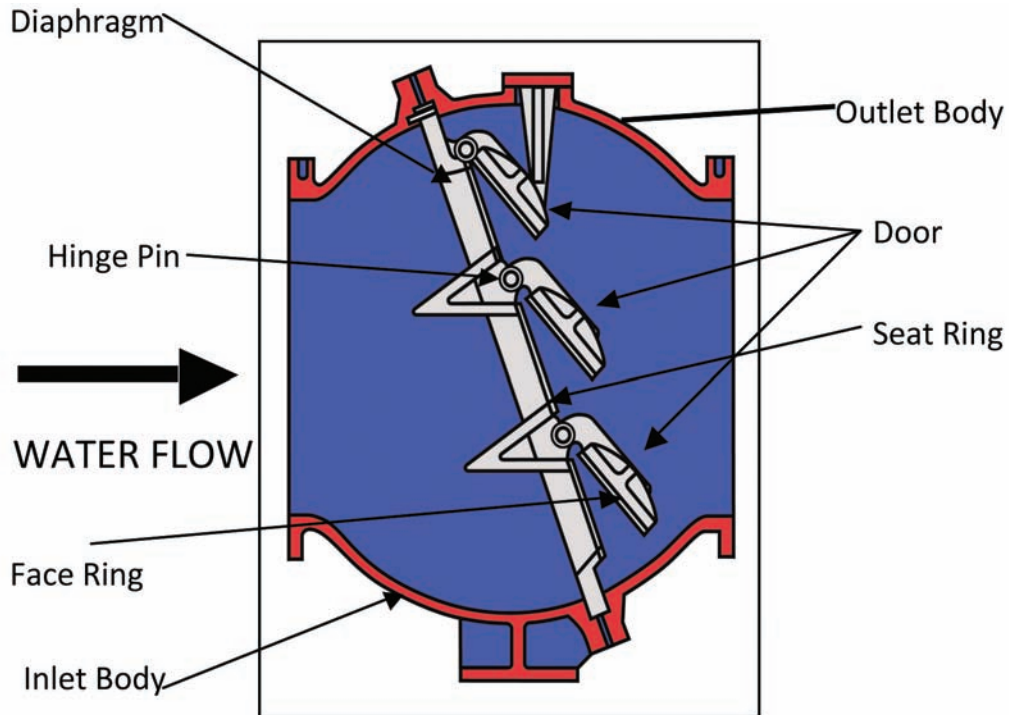


DN600 – DN1200 RANGE – MULTIPLE DOOR DESIGN

In order to minimize valve door travel, valves of DN600 and above incorporate a multi-door design.



CROSS-SECTIONAL DETAIL OF DN600 – DN1200 MULTIPLE DOOR DESIGN



VALVE DN SIZE	NUMBER OF DOORS
DN600 - DN800	2
DN900 - DN1200	3

RECOIL VALVE SPECIFICATIONS

APPLICATIONS

For Water and neutral liquids up to 70 Degrees C

NOTE: The Valves are not suitable for sewerage applications unless the sewerage is finely comminuted.

The Valves are designed to operate in the horizontal position only.

PRESSURE TESTS

Hydrostatic Test : Body at 1.5 x PN Rating

Seat at 1.1 x PN Rating

FLANGE STANDARDS

Cast and drilled to BS EN 1092-2 : PN16

PN10 drilling available on request

OPTIONAL EXTRAS

- Limit / Proximity Switch
- By Pass Valves
- PN25 Valves

SERIES NUMBERS

Series 641/11 : DN100 – DN500 PN 16 with Single Door

Series 641/21 : DN600 – DN1200 PN 16 with Multiple Doors

Series 641/13 : DN100 – DN500 PN 25 with Single Door

Series 641/23 : DN600 – DN1200 PN25 with Multiple Doors

SPECIFICATIONS

The Recoil Valves are available to the different specifications detailed below :-

BRITISH SPECIFICATION – MATERIAL OF CONSTRUCTION

- Body / Cover :** Ductile Iron BS EN 1563 EN-GJS-500/7
- Doors / Stoppers :** Ductile Iron BS EN 1563 EN-GJS-500/7
- Body Seat :** Gun Metal BS EN 1982 CC491K
- Door Face :** Gun Metal BS EN 1982 CC491K
- Hinge Pin :** Stainless Steel BS EN 10088 Grade 1.4305
- Fasteners :** Zinc Plated Carbon Steel
- Seals :** EPDM – WBS listed
- Coating :** Internal and External Blue 2-Pack Epoxy to 250 microns dry film thickness

GULF SPECIFICATION – MATERIAL OF CONSTRUCTION

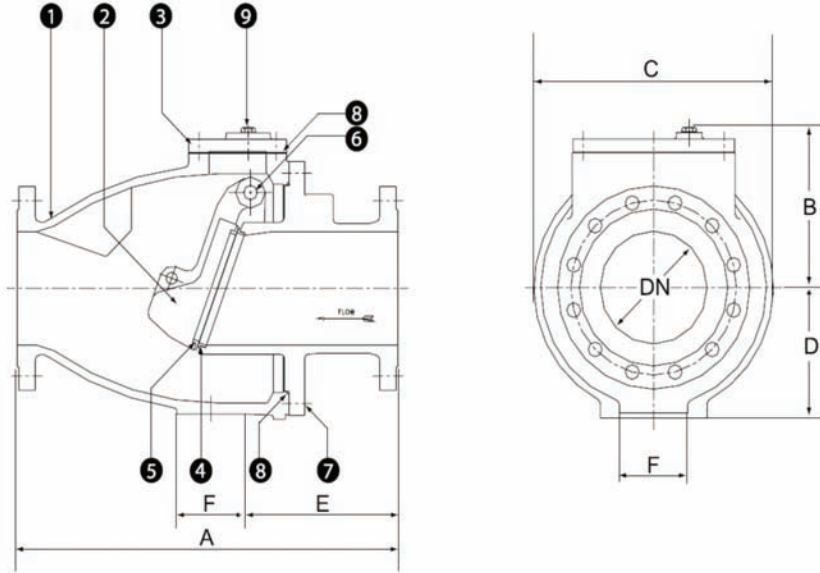
- Body / Cover :** Ductile Iron BS EN 1563 EN-GJS-500/7
- Doors / Stoppers :** Ductile Iron BS EN 1563 EN-GJS-500/7
- Body Seat :** Gun Metal BS EN 1982 CC491K
- Door Face :** Gun Metal BS EN 1982 CC491K
- Hinge Pin :** Stainless Steel BS EN 10088 Grade 1.4401
- Fasteners :** Stainless Steel Grade A4
- Seals :** EPDM – WBS listed
- Coating :** Internal and External Blue 2-Pack Epoxy to 300 microns dry film thickness

DIMENSIONS

COMPONENT LIST

ITEM	DESCRIPTION
------	-------------

- | | |
|---|-----------|
| 1 | BODY |
| 2 | DISC |
| 3 | COVER |
| 4 | BODY SEAT |
| 5 | DISC FACE |
| 6 | HINGE PIN |
| 7 | FASTENERS |
| 8 | SEALS |
| 9 | AIR PLUG |



DIMENSIONS & WEIGHTS DN100 – DN500 RANGE

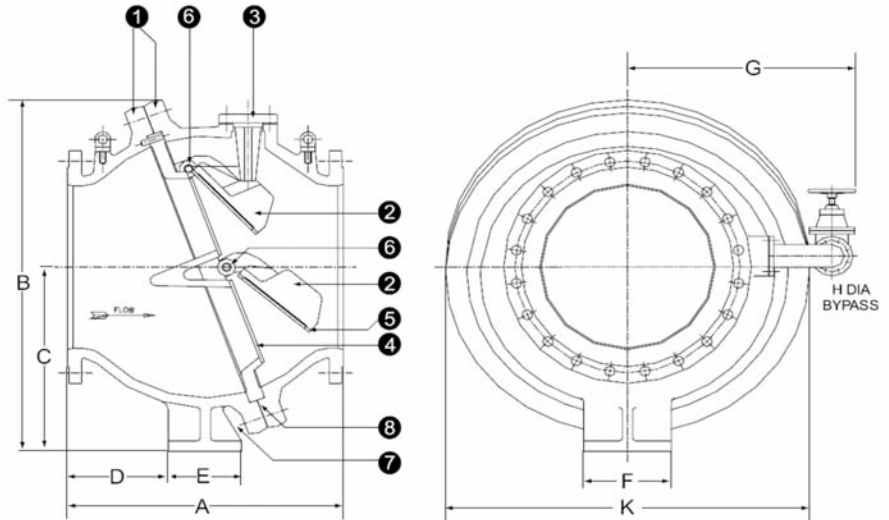
DN	LNS NUMBER	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	APPROX WEIGHT (kg)
100	641-100-11100000	495	210	311	159	202	100	81
150	641-150-11100000	610	260	412	210	245	130	154
200	641-200-11100000	762	343	533	273	296	150	290
250	641-250-11100000	965	387	620	315	354	230	447
300	641-300-11100000	1067	426	683	347	390	230	612
350	641-350-11100000	1219	464	819	457	470	305	1038
400	641-400-11100000	1219	464	819	457	470	305	1100
450	641-450-11100000	1295	546	978	572	508	406	1564
500	641-500-11100000	1473	635	1149	660	546	457	2240

DIMENSIONS

COMPONENT LIST

ITEM	DESCRIPTION
------	-------------

- | | |
|---|-----------|
| 1 | BODY |
| 2 | DISC |
| 3 | COVER |
| 4 | BODY SEAT |
| 5 | DISC FACE |
| 6 | HINGE PIN |
| 7 | FASTENERS |
| 8 | SEALS |
| 9 | AIR PLUG |

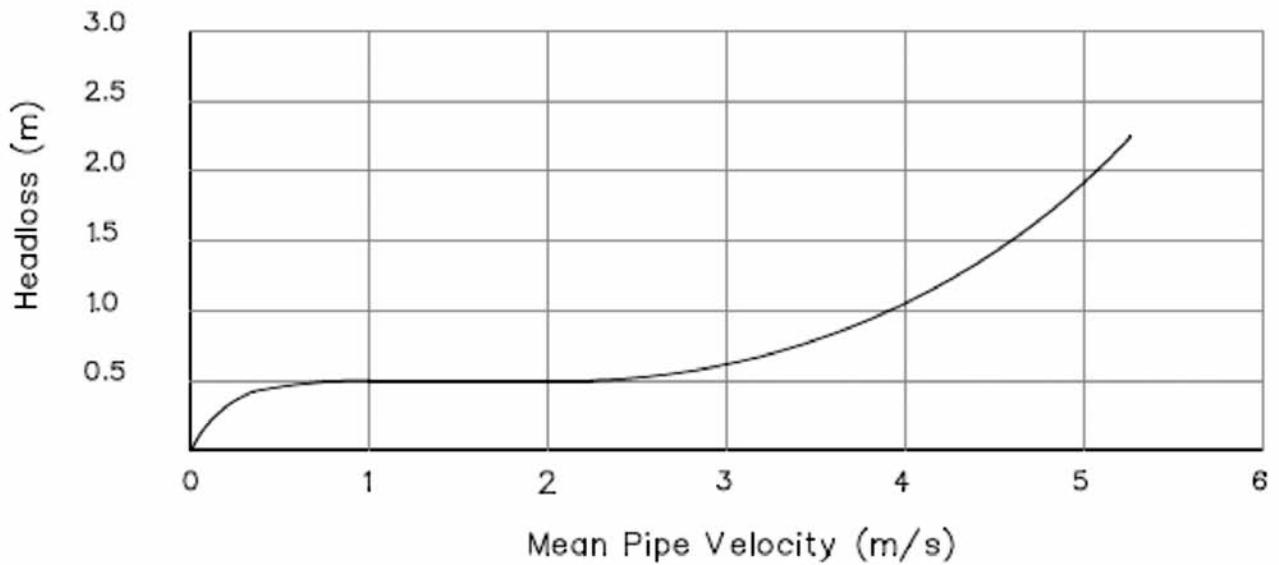


DIMENSIONS & WEIGHTS DN600 – DN1200 RANGE

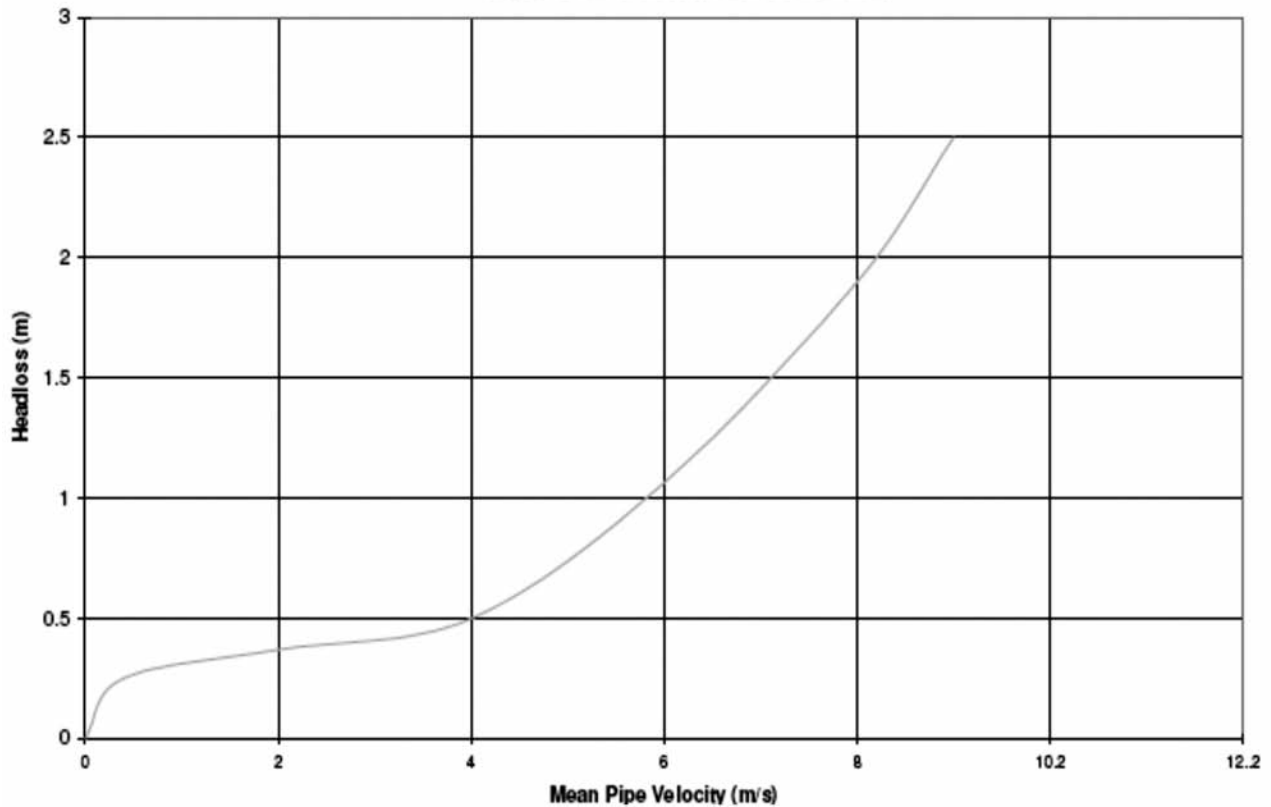
DN	LNS NUMBER	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm) (option)	H (mm) (option)	K (mm)	No of Door	APPROX WEIGHT (kg)
600	641-600-21100000	940	1270	670	345	250	300	890	80	1230	2	1950
700	641-700-21100000	1016	1387	735	378	260	300	1008	80	1342	2	2500
800	641-800-21100000	1040	1490	780	360	320	320	1018	80	1455	2	2700
900	641-900-21100000	1300	1800	930	470	360	360	1225	80	1795	3	3600
1000	641-300-11100000	1400	1924	1000	520	360	360	1285	80	1915	3	4500
1200	641-350-11100000	1500	2218	1160	553	400	400	1550	100	2195	3	6800

GLENFIELD RECOIL CHECK VALVES VALVE CHARACTERISTICS –HEAD LOSS CURVE

Headloss Curve
Single Door Recoil Check Valve Series 641/11



Headloss Curve
Multi Door Recoil Check Valve Series 641/21



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