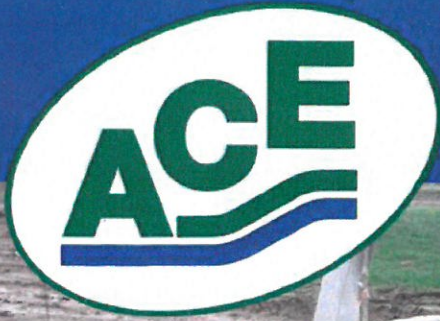




Penstocks

LIGHTWEIGHT | QUICK INSTALLATION | MAINTENANCE FREE



LIGHTWEIGHT – made from a high specification, innovative material combination of HDPE and stainless steel 316L

QUICK INSTALLATION – Lightweight material combination, no grouting required due to EPDM seal technology

MAINTENANCE FREE – No lubrication required. Zero chance of materials seizing. No requirement for protective coatings

SPECIAL REQUIREMENTS – standard sizes in stock for immediate dispatch and can also engineer bespoke penstocks to suit unique requirements



Penstocks are ideal for a wide variety of water control and used in surface, sewer and process water systems. There are a variety of standard sizes available in stock for immediate dispatch within the UK or ACE can engineer custom penstocks to suit your requirements.

The penstock consists of a vertically sliding door within a stainless steel frame, it closes around an opening and seals between the door and the frame. It is easy to install, with various mounting methods and lightweight, strong HDPE material. All penstocks are supplied with a non-rising spindle as standard but on request can be changed to a rising spindle.

Aquatic Control Engineering Ltd

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info@aquaticcontrol.co.uk
01777 249 080

V1.1

Aquatic Control Engineering have been market leaders of innovative water flow control for 20 years. Using high spec HDPE products from KWT in Holland, we are proud to supply our customers with high quality innovative solutions and high standard installation services.



Penstocks

LIGHTWEIGHT | QUICK INSTALLATION | MAINTENANCE FREE

Leakage rate - Taux de fuite - Leckrate - Leikgraad

KSA MD DN ≤ 800	MwC	BS7775 (resilient)		MwC	DIN 19569-4	
		L/min'	L/min'		L/min'	L/min'
100mm - 300 mm	8	0,3	0,5	8	1,1	1,1
400mm - 600 mm	6	0,3	0,5	6	0,7	0,7

Norm values (L/min'/m')

Leakage rate - Taux de fuite - Leckrate - Leikgraad

KSA MD DN > 800	MwC	AWWA 561 / BS 7775 (resilient)		MwC	DIN 19569-4	
		L/min'	L/min'		L/min'	L/min'
900mm - 1500 mm	5	0,3	0,5	5	0,5	0,5

Norm values (L/min'/m')

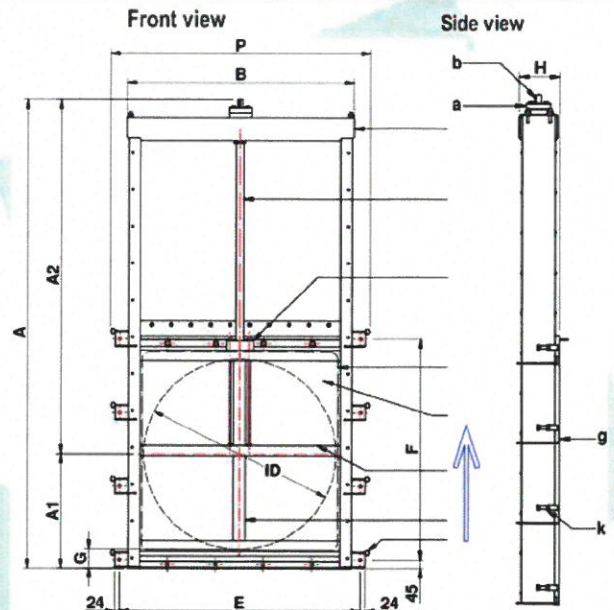
DN					
DN100	24	10	21	4	8
DN125	26	10	22	4	8
DN150	32	10	25	4	8
DN200	39	10	29	4	8
DN250	47	10	33	4	8
DN300	58	15	39	4	8
DN400	72	20	49	8	6
DN500	89	30	60	8	6
DN600	105	45	73	8	6
DN700	122	55	92	10	6
DN800	139	70	109	10	6

DN					
DN900	160	102	128	10	5
DN1000	176	124	160	16	5
DN1100	193	150	180	16	5
DN1200	210	176	208	18	5
DN1250	218	192	221	18	5
DN1500	260	272	330	22	5

Data (mm) · Informations · Daten · Gegevens

KWT item nr	DN	ID Ø	A	A1	A2	B	E	F	G	H
211Z0100	DN100	110	470	120	350	260	210	240	70	130
211Z0125	DN125	125	500	132	368	275	225	255	70	130
211Z0150	DN150	160	570	145	425	310	260	290	70	130
211Z0200	DN200	200	650	170	480	350	300	330	70	130
211Z0250	DN250	250	750	195	555	400	350	380	70	130
211Z0300	DN300	315	800	220	580	465	415	445	70	130
211Z0400	DN400	400	1050	270	780	550	500	530	70	130
211Z0500	DN500	500	1250	320	930	650	600	630	70	130
211Z0600	DN600	630	1450	370	1080	750	700	730	70	130
211Z0700	DN700	710	1650	420	1230	850	800	830	70	130
211Z0800	DN800	800	1850	470	1380	950	900	930	70	130

KWT item nr	DN	ID Ø	A	A1	A2	B	E	F	G	H	P
211Z0900	DN900	900	2230	610	1620	1220	1160	1160	160	165	1380
211Z1000	DN1000	1000	2450	660	1790	1350	1280	1280	160	175	1510
211Z1100	DN1100	1100	2900	710	2190	1520	1460	1460	160	195	1680
211Z1200	DN1200	1200	2900	760	2140	1520	1460	1460	160	195	1680
211Z1250	DN1250	1250	2900	785	2115	1520	1460	1460	160	195	1680
211Z1500	DN1500	1500	3390	910	2480	1770	1710	1710	160	215	1930



Specifications

Passage:
as per requirements

Operating pressure:
mid range

Operating temperature:
Ambient temperature: -16°C/34°C

Operation:
manual or through actuator

Operation connector:
half moon or square

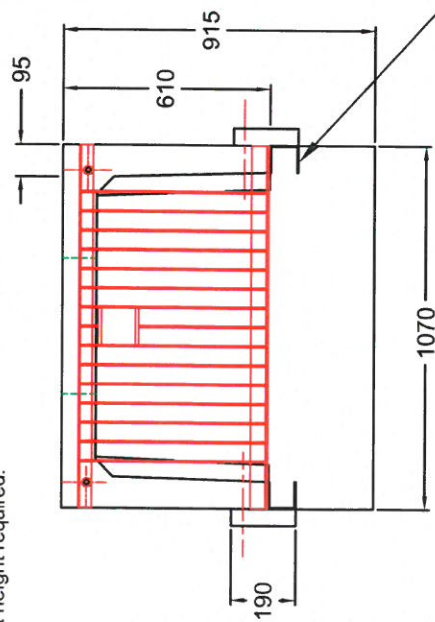
Movement mechanism:
rising spindle or non rising spindle

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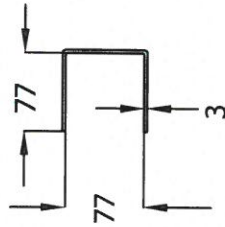
Aquatic Control Engineering have been market leaders of innovative water flow control for 20 years. Using high spec HDPE products from KWT in Holland, we are proud to supply our customers with high quality innovative solutions and high standard installation services.

Opening in back wall cast to suit the outside diameter of the pipe at invert height required.

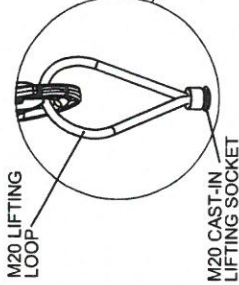


Grating manufactured from 30 x 5 flat at 55mm centres with 50 x 50 x 6 and 40 x 40 x 6 angle frame. Fully Welded and hot dip galvanised.

SCALE 3:1



DETAIL D1



Note: Isometric drawing is for reference only, details may not accurately represent actual design - please see detailed views for technical information

NOTES:
* All dimensions in mm U.O.S
* All measurements ± 1mm

Specification Information
* Openings in back wall cast to suit outside diameter of the pipe.
* Invert level of pipe can be set to your specification.

Headwall Installation
Units should be bedded on minimum 100mm thick well compacted Class 6A* selected well graded granular material.
* Manual or compact documents for Highway Works Volume (MCHW1)
* The headwall should be installed on a firm, level surface.
* The headwall level or with a slight fall 1:50 from pipe to spill mouth.

Headwall
A. Weight of concrete is based on 2.4 tonnes/m³ ± 5% is recommended for slinging lifting equipment.
B. All lifting points shall be used as specified below.
C. Unit to be lifted as per lifting diagram.

Concrete
A. Mix ref: Self-Compacting C40/50-4 Mix.
B. Minimum concrete strength on 28 days = 50N/mm²
C. Characteristic 28 day strength = 50N/mm²
D. Concrete provides Design Chemical Class 4 (C4-4) to special Dignity 1, Table F2.

Reinforcement
A. Reinforcement to BS EN 13369
B. Scheduling, dimensioning, bending & cutting to BS4449.
C. Cages to be machine bent with laser with.

Manufacture
A. Manufacture to BS EN 15206:2006 precast concrete.
B. Units shall be manufactured in accordance with the Control Certificate number: 0006-CF650408 & BS EN 13369.
C. Tolerances to BS EN 13369 clause 4.3.1.1

Marking
A. Marking shall be clearly marked to show:
B. Manufacturer's code.
C. Job reference number & unique product number.
D. Unit weight (kg)

Design

A. Concrete design to EC2.
B. JKH have designed the concrete units only, the site designer should be responsible for suitability by the scheme designer.
C. Units are designed to withstand a vertical live load of 10kN/m².
D. Weight of concrete is based on 2.4 tonnes/m³.
E. Angle of internal friction = 30°.
F. Design Life: >100 years.

Item	Min. Cover	Max. Cover
Top	25mm	40mm
Bottom	25mm	40mm
Side	25mm	40mm
End	25mm	40mm

Fabrication Specification

A. Manufacture to BS EN 1090-2:2002 EC CLASS 1.
B. Material grade in BS EN 10025:2003.
C. Welding carried out in accordance with BS 1851:2003.
D. All fillet and butt welds to have a minimum throat thickness of 6mm.
E. Ensure vertical faces are fully welded both sides when possible.
F. All sharp edges and burrs are to be removed.
G. Units are to be marked with the JKH logo.
H. Holes by punching are permitted without naming.
I. Galvanising is carried out after fabrication to BS EN: ISO 1461.

Headwall Specification

A. Key Name Galvanised Size 8 Filings.
B. Size of 40mm OD 3.2mm Wall Thickness Galvanised.
C. 300N/mm Design Load as stated in BS 6180: BS 6180: BS 6180 & BS 7618: Civil Engineering Specification for the use of steel reinforcement (CESWI).
D. Other materials available on request.
E. GPO-FRP Headwall also available.



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MAILING ADDRESS:
JKH
UNIT 10, THE WOODS
PROPRIETARY & CONFIDENTIAL

The information is for reference only and is not to be used for any other purpose without the prior written consent of JKH.

WC Headwall 1070mm wide x 1120mm tall c/w single slides, 250mm Penstock and catwalk grating

Client	Project Name	Scale	Drawn By	Checked By
JKH	WCF-1070-1120S+Penstock	1:50	15/08/2019	
Technical Weight	700kg	Technical Weight	26kg	
Technical Weight	725kg	Technical Weight		
Technical Weight	LC	Technical Weight		

DO NOT SCALE DRAWING



