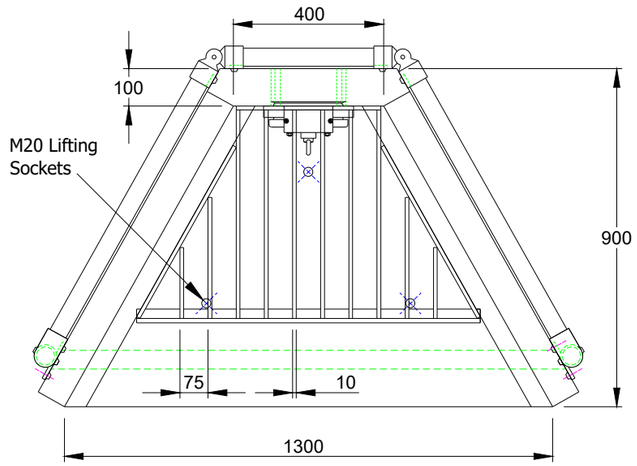
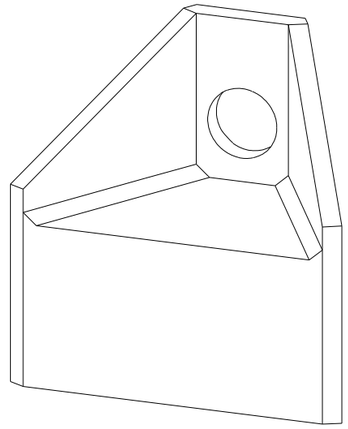
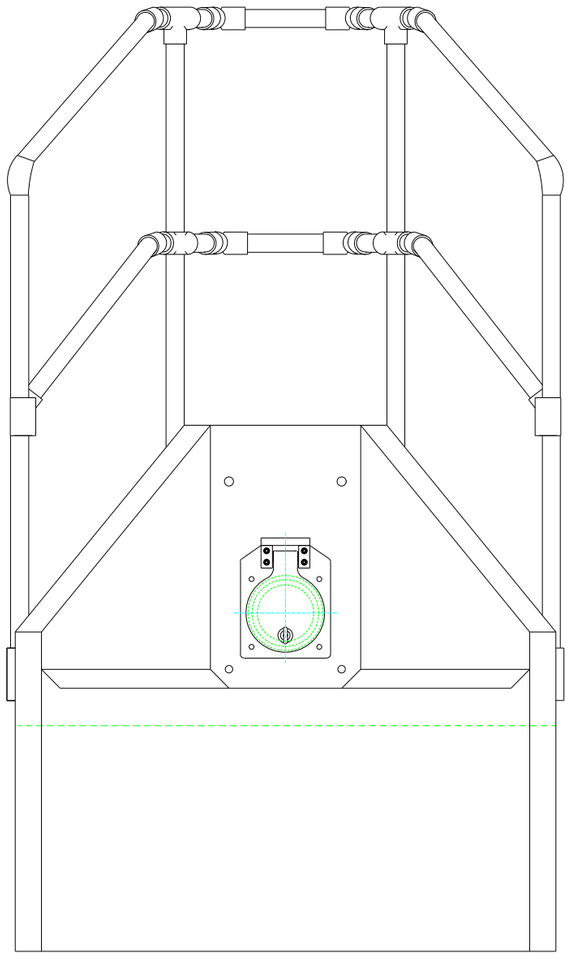
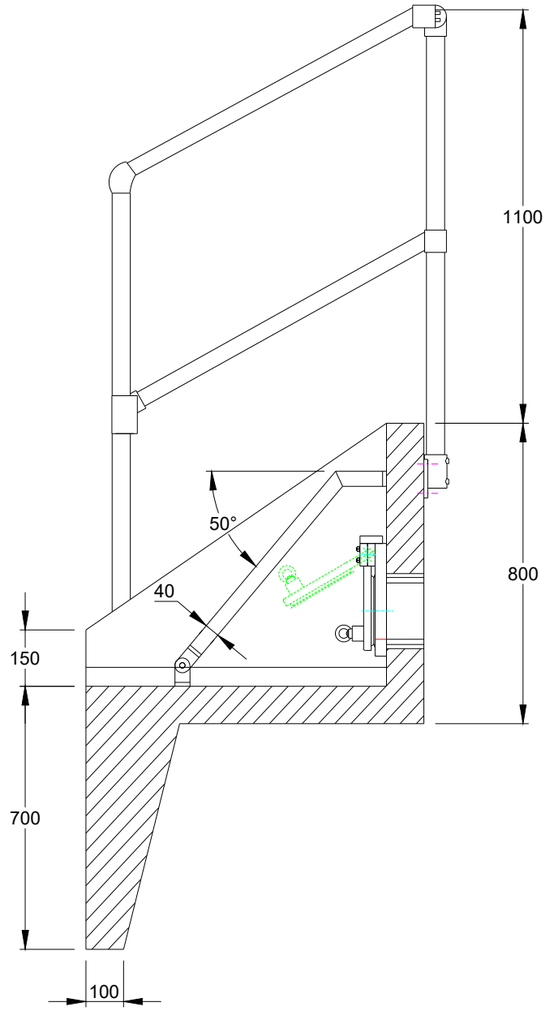
Opening in back wall cast to suit the outside diameter of the pipe at invert height required.



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







Althon 150 HDPE/SS Flap Valve Specification Information

- The valve plate and the back plate are produced using HDPE
- The hinge pin and ballast weight are produced in SS316 as standard
- The ballast weight can be easily adjusted if required
- The sealing arrangement consists of an EPDM lips seal in the back plate

Material: HDPE, SS316, EPDM
Opening: Ø150mm
Max load from bottom invert level (B.I.L.):
1.3MWC long period (=50 years)
5MWC short period (=72hours)
Number of chemical anchors M8: 4 piece

DO NOT SCALE DRAWING

NOTES:

- All dimensions in mm
- All measurements ± 1mm

Specification Information

- Opening in back wall cast to suit outside diameter of the pipework
- Invert level of pipe can be set to your specification

Headwall Installation

Units should be bedded on minimum 150mm thick well compacted Class 6A or 6K* well graded granular material with a 50mm topping of fine material (Class 6L*) to ensure units are level and stable.
*Manual of contract documents for Highway Works: Volume (MCHW1) specification for Highway Works, Series 600 (Nov 09).

Handling

A. Weight of concrete is based on 2.4 tonne/m³+5% is recommended for sizing lifting equipment.
B. All lifting points shall be used as specified below - Anchor points & loops - Total Qty: 3
C. Unit to be lifted as per lifting diagram

Concrete

A. Mix ref: Self-compacting DC4/DS4 Mix
B. Lifting strength based on 2 cubes = 20N/mm²
C. Characteristic 28 day cube strength = 50N/mm²
D. Concrete provides Design Chemical Class 4 (DC4) to special Digest 1, Table F2.

Reinforcement

A. Reinforcement to BS EN 13369
B. Scheduling, dimensioning, bending & cutting to BS8666
C. Cage to be machine tied with steel wire

Manufacture

A. Manufacture to BS EN 15258:2008 precast concrete products - Retaining wall elements, Factory Production Control certificate number: 0086-CPR-650448 & BS EN 13369
B. Tolerances to BS EN 13369 clause 4.3.1.1
C. Finishing:

	Top	Sides	Base	Rear of back wall
Class	A	A	A	Self - Levelled

D. Marking: Units shall be indelibly marked to show:

- Mould reference code
- De-mould date
- Job reference number & unique product number
- Unit weight (kg)

Design

A. Concrete design to EC2
B. Althon have designed the concrete units only, the site conditions should be assessed for suitability by the scheme designer
C. Units are designed to withstand a vertical live load surcharge of 10kN/M²
D. Weight of soil = 18kN/M²
E. Angle of internal friction = 30 Deg.
F. Design Life: >50 years

Min Cover	Cover Block Size (mm)	Min Cover Size (mm)	Max Cover Size (mm)
All Faces	33	28	38

Exposure Classification	Exposure induced by Carbonation	Corrosion induced by Chloride	Freeze/thaw attack	Chemical attack
All Faces	XC3/4	XD2	XF3	XA2

Fabrication Specification

A. Manufacture IAW EN 1090-2 EXC CLASS 1
B. Material grade is to be: BS EN 10025 S275
C. Welding carried out IAW EN 1090-2 PARA 7.5.4 - 7.5.18
D. All fillet and butt welds to have a minimum throat thickness of 6mm & joints to be fully welded where possible.
E. Ensure vertical flats are fully welded both sides where possible.
F. All sharp edges and burrs are to be removed.
G. Remove all weld splatter.
H. Holes by punching are permitted with reaming.
I. Galvanising is carried out after fabrication to BS EN:ISO 1461

Handrail Specification

A. Kee Klamp® Galvanised Size 8 Fittings
B. Size 8 48.3mm OD 3.2mm Wall Thickness Galvanised Medium Duty Tube to BS EN 10255
C. 360N/m Design Load at stated in BS 8118, BS 6180, BS 6399 & BS 7818, Civil Engineering Specification for the Water Industry (CESWI) 7th Edition Clause 2.60 Handrails & Balusters & The Engineering Equipment and Materials Users' Association (EEMUA) Publication 105 7th Edition Factory Stairways, Ladders and Handrails
D. Other design loads available on request
E. GRP/FRP Handrails also available

REV NO	DATE	DESCRIPTION

Althon

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VULCAN ROAD SOUTH
NORWICH
NR6 6AF

TEL: 01603 488700
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DRAWING TITLE / PROJECT:

H4C Headwall
150mm Flap Valve
Cranked Grating
3 Sided Kee Klamp

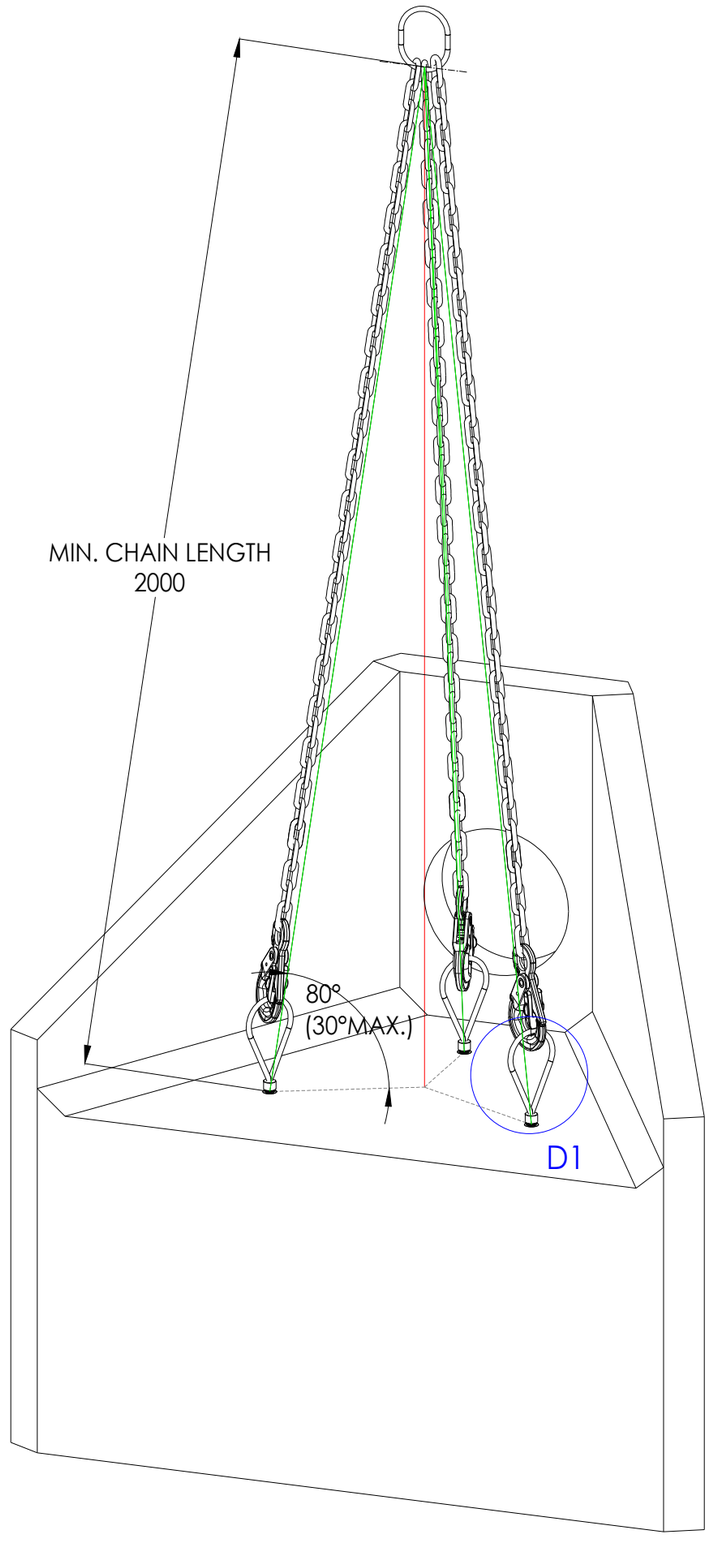
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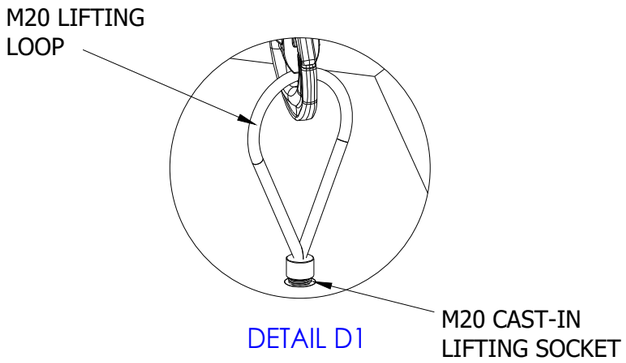
SCALE:	PAPER:	SHEET NO:	DATE:
NTS	A3	01 OF 02	17 - 04 - 20

HEADWALL WEIGHT:	TOE WEIGHT:	GRATING WEIGHT:
800kg	N/A	29kg

PRODUCT NAME: H4C

DRAWING No:





RD20 Threaded Lifting Loop
Safe Working Load: 2000kg each

Manufactured from zinc plated steel wire rope with a precision bright steel threaded portion. Threaded lifting loops are ideally suited to axial lifting procedures but can be used up to and including angled lifts of 30 degrees.

Use and Operation

The threaded lifting loop must be fully threaded into the lifting socket prior to commencing a lifting operation. It is imperative that the two mating surfaces are parallel to each other.

DO NOT SCALE DRAWING

NOTES:

- All dimensions in mm
- All measurements ± 1mm

Specification Information
- Opening in back wall cast to suit outside diameter of the pipework
- Invert level of pipe can be set to your specification

Headwall Installation
Units should be bedded on minimum 150mm thick well compacted Class 6A or 6K* well graded granular material with a 50mm topping of fine material (Class 6L*) to ensure units are level and stable.
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C. Characteristic 28 day cube strength = 50N/mm²
D. Concrete provides Design Chemical Class 4 (DC4) to special Digest 1, Table F2.

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D. Marking: Units shall be indelibly marked to show:
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B. Althon have designed the concrete units only, the site conditions should be assessed for suitability by the scheme designer
C. Units are designed to withstand a vertical live load surcharge of 10kN/M²
D. Weight of soil = 18kN/M²
E. Angle of internal friction = 30 Deg.
F. Design Life: >50 years

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All Faces	33	28	38

Exposure Classification	Exposure induced by Carbonation	Corrosion induced by Chloride	Freeze/thaw attack	Chemical attack
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D. Other design loads available on request
E. GRP/FRP Handrails also available

REV NO	DATE	DESCRIPTION

Althon

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DRAWING TITLE / PROJECT:

H4C Headwall
Lifting Diagram

CLIENT:

SCALE:	PAPER:	SHEET NO:	DATE:
NTS	A3	02 OF 02	17 - 04 - 20

HEADWALL WEIGHT:	TOE WEIGHT:	GRATING WEIGHT:
800kg	N/A	N/A

PRODUCT NAME: H4C

DRAWING No: