

MODEL ZW PENSTOCK

General Description

The AWE ZW Series is a flush bottom 4 sided sealing upward opening penstock suitable for all types of flow control applications such as water and wastewater treatment plants, irrigation, flood control, hydraulic works and power plants.

From sizes 200mm x 200mm to 600mm x 600mm, the ZW Series has a unique UHMWPE self-adjusting seal design that achieves leakage rates considerably less than those stipulated in BS 7775, ANSI/AWWA 561 and DIN 19569-4.

AWE also designs and manufactures the ZW Series penstock with materials for more demanding service conditions. For more information please contact an AWE representative.

The ZW Series penstock is designed and manufactured in accordance with BS 7775, ANSI/AWWA C561 and DIN 19569-4.

The standard ZW-S model is manufactured in grade 316L stainless steel which offers high corrosion resistance in many applications resulting in a longer life cycle with minimal maintenance. Other materials of construction are available upon request, such as marine grade aluminium and duplex stainless steels.

Design Features

The robust modular design of the ZW series allows for both open frame and self-contained configurations.

Frame configuration options include:

- Square
- Rectangular

Mounting configuration options include:

- Face wall mount
- Side wall and floor mount
- Flange mount



Other features include:

- Rising or non-rising stem configurations
- Flush bottom design allows for raised or flush invert configurations
- Suitable for operation with manual, electric, pneumatic, hydraulic, fixed or portable actuators
- Self-adjusting, low friction and wear resistant UHMWPE seals reduce sliding drag friction minimising the required operating effort and extending seal life
- Gate stiffening ribs are designed to avoid crevice corrosion
- AWE penstocks are factory assembled and tested eliminating the need for on site adjustment
- All fasteners are grade A4 class 70 stainless steel

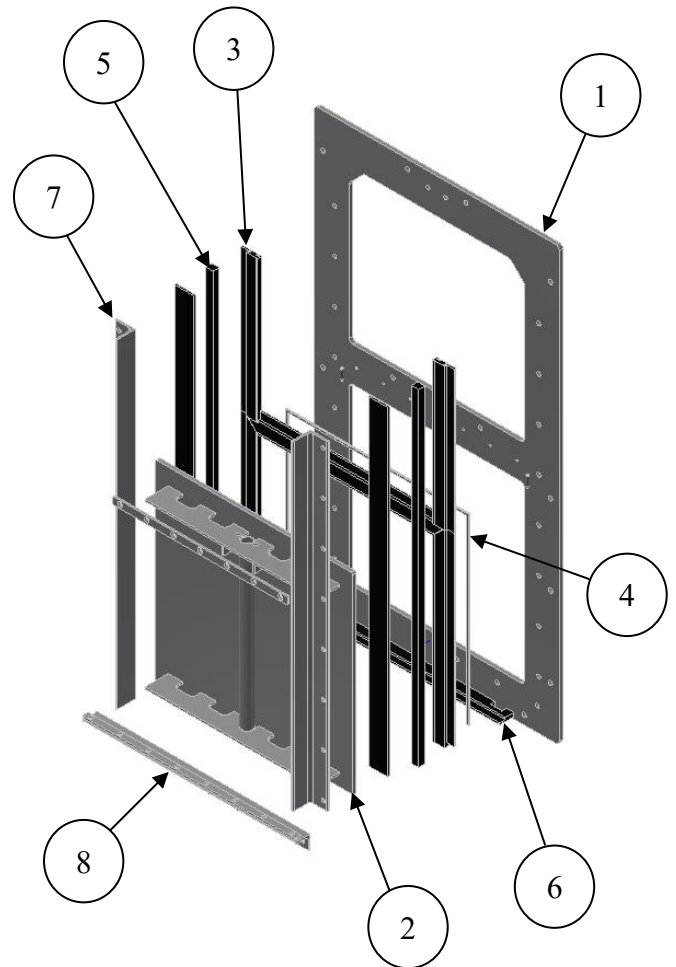
Performance

The leakage rate performance of the ZW model penstock is significantly lower than the maximum allowable leakage as defined by the various recognised industry standards.

- ZW Series = 0.2 Litres/minute/metre of seal
- BS 7775 = 0.5L/min/per m of seal
- DIN 19569-4 (Class 5) = 1.2L/min per m of seal
- ANSI/AWWA C561 = 1.24L/min per m of seal

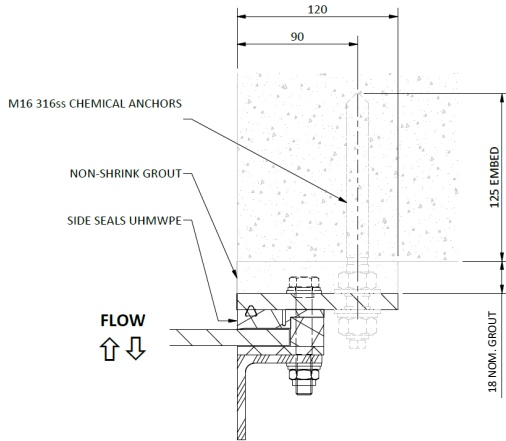
Seating and Off-seating Head

All AWE penstocks are designed in accordance with the project specific design heads as stipulated. Heads are measured from the invert of the penstock to the maximum top water level. The combination of opening width and head is generally the limiting factor for the design capacity of any given penstock.

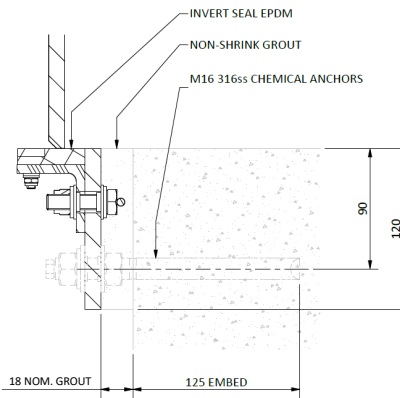


Item	Description	Material
1	Frame	316 Stainless Steel
2	Gate	316 Stainless Steel
3	Side and Top Seals	UHMWPE
4	Compression Cord	EPDM
5	Guides	UHMWPE
6	Bottom Seal	EPDM
7	Side Seal Retainer	316 Stainless Steel
8	Bottom Seal Retainer	316 Stainless Steel

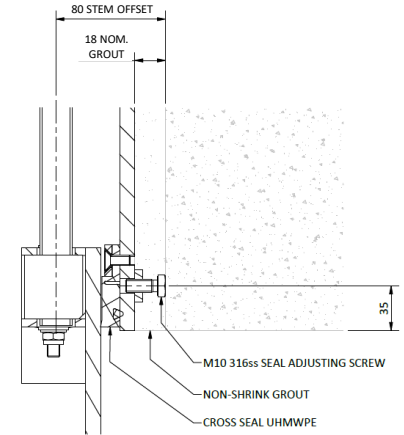
Mounting Configurations



SECTION THRO' SIDE SEAL

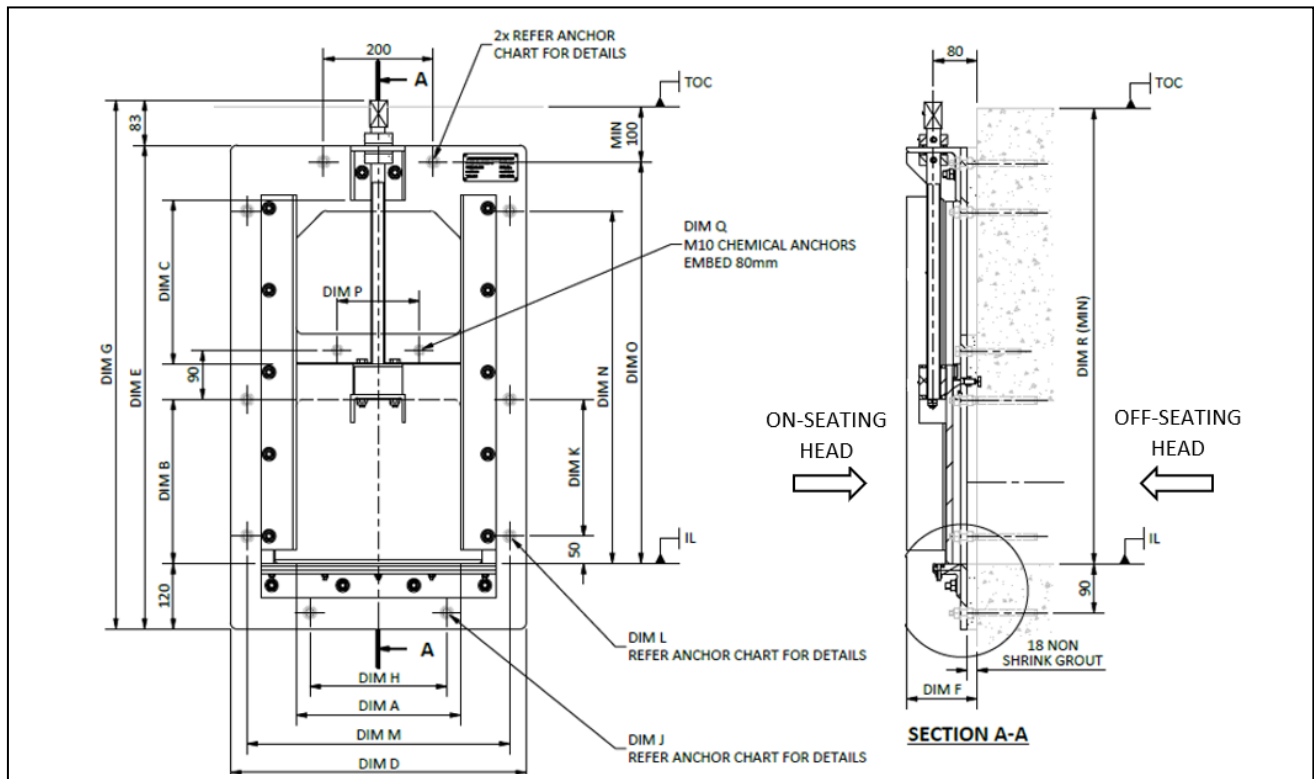


SECTION THRO' BOTTOM SEAL



SECTION THRO' TOP SEAL

Overall Dimension



DIMENSION CHART

DIM A	DIM B	DIM C	DIM D	DIM E	DIM F	DIM G	DIM H	DIM J	DIM K	DIM L	DIM M	DIM N	DIM O	DIM P	DIM Q	DIM R	No TURNS	MASS AL (KG)	MASS 316Lss (KG)
150	150	150	390	585	129	668	0	1x ØREFER ANCHOR CHART	150	4x ØREFER ANCHOR CHART	330	N/A	435	N/A	N/A	535	18	17	38
200	200	200	440	685	129	768	150	2x ØREFER ANCHOR CHART	150	4x ØREFER ANCHOR CHART	390	N/A	535	N/A	N/A	635	24	21	48
250	250	250	490	785	129	868	200	2x ØREFER ANCHOR CHART	200	4x ØREFER ANCHOR CHART	430	N/A	635	N/A	N/A	735	30	25	58
300	300	300	540	885	129	968	200	2x ØREFER ANCHOR CHART	250	6x ØREFER ANCHOR CHART	480	645	735	150	2x Ø13	835	35	27	65
350	350	350	590	985	129	1068	200	2x ØREFER ANCHOR CHART	300	6x ØREFER ANCHOR CHART	530	745	835	175	2x Ø13	935	41	31	73
400	400	400	640	1085	129	1168	200	2x ØREFER ANCHOR CHART	300	6x ØREFER ANCHOR CHART	580	845	935	200	2x Ø13	1035	47	35	84
450	450	450	690	1185	137	1268	225	2x ØREFER ANCHOR CHART	200	8x ØREFER ANCHOR CHART	630	945	1035	225	2x Ø13	1135	53	40	97
500	500	500	740	1285	137	1368	250	3x ØREFER ANCHOR CHART	225	8x ØREFER ANCHOR CHART	680	1045	1135	250	2x Ø13	1235	59	45	110
550	550	550	790	1385	137	1468	275	3x ØREFER ANCHOR CHART	275	8x ØREFER ANCHOR CHART	730	1145	1235	300	2x Ø13	1335	65	49	121
600	600	600	840	1485	137	1568	300	3x ØREFER ANCHOR CHART	275	8x ØREFER ANCHOR CHART	780	1245	1335	300	2x Ø13	1435	71	54	134

ANCHOR CHART

SEATING	ANCHOR SIZE	EMBEDMENT	HOLE Ø (AL)	HOLE Ø (316Lss)
ON SEATING	M12	110	Ø16	Ø15
OFF SEATING	M16	125	Ø20	Ø19
ON & OFF SEATING	M16	125	Ø20	Ø19

Actuation Options

