

CENTRALIZER & SPACER SYSTEMS
FOR THE DRILLING & CIVIL CONSTRUCTION INDUSTRIES

kwik-*ZIP*[®]

Meet the challenges head on
HDX Pipeline Spacers
Intermediate to Heavy Weight Applications



An ISO 9001 Certified Company |

www.kwikzip.com

The HDX at a glance

- Handles Steel, DICT, HDPE, Concrete and MSCL carrier pipes from 100mm (4") OD to 1600mm (63") OD and beyond.
- Deals with various annular clearances, both grouted and un-grouted, via multiple runner heights.
- Positions pipe within casing/host pipe for customized centering or restraining.
- Installs quickly and easily to support carrier pipe on low co-efficient of friction wear pads that resist abrasion from casing/host pipe surface.
- Maximizes spacer weight bearing capacity and reduces point loading via a unique load sharing runner system.
- Grips pipe surface on anti-slip rubber pads that prevent spacer dislodgement during installation.
- Minimizes damaging vibration and movement transfer from outer casing to carrier pipe via suspension and dampening effect.
- Resists chemicals and oils, even if immersed for long periods of time.
- Contains no metal parts to promote corrosion.
- No lead content, making it fully compatible with all potable water applications.

The HDX comes in four runner heights, 38mm (1.5"), 65mm (2.6"), 90mm (3.6") and 125mm (5"), making it both simple for pipeline installers to handle a very broad range of carrier pipe OD and casing (host pipe) ID combinations, and customise pipe position for grade control or "centering".

Compatible with all types of pipe material, the HDX minimizes running friction during installation, and stations the pipe to promote even grout cover. If the pipe is not to be grouted the unit will support and isolate the carrier pipe plus its contents for the design life of the installation.



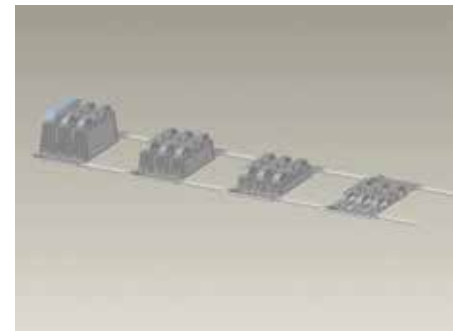
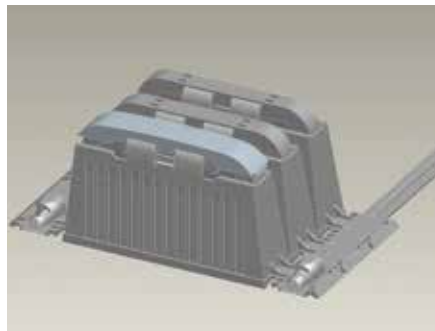
Designed to perform

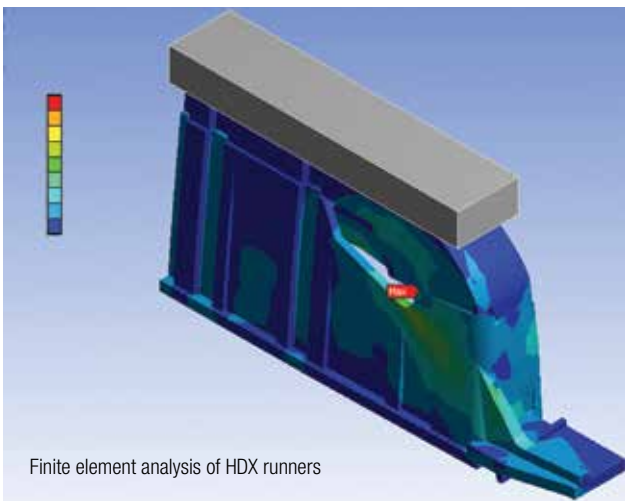
Weight bearing capacity

Using a unique "load sharing runner" system, each HDX unit maximises its weight bearing capacity by distributing the pipe load across multiple runners. This reduces point loading at any one location, boosting and optimising the overall support capacity of the spacer exponentially as pipe size increases.

The "load sharing runner" system also delivers a suspension and dampening effect, resulting in a reduction in the transfer of potentially damaging vibration and movement from the outer casing to the carrier pipe. This may be beneficial in tectonically active regions or high traffic areas where ongoing external vibration affects the outer casing.

When used in accordance with the Installation Guide, the HDX will easily handle weights equivalent to Standard Ductile Iron Cement Lined (DICT) pipe full of fluid. For specific weight performance advice please contact support@kwikzip.com (Australasia) or usa@kwikzip.com (USA)





Chemically resistant and inert

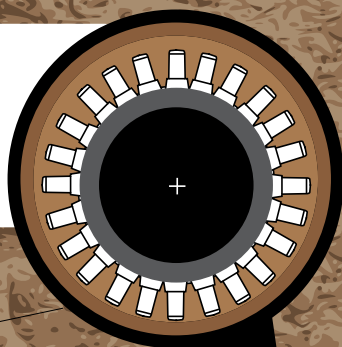
The HDX is manufactured from an engineering thermoplastic called ACETAL POM, which is characterised by its high flexural strength, high temperature resistance, low co-efficient of friction, and high resistance to organic chemicals, oils and synthetic detergents; even when immersed for long periods of time. Specific strength retention data during long-term immersion is available from support@kwikzip.com.

As it has no metal parts or lead content, the unit is compatible with all potable water applications, being in full compliance with AS/NZS 4020:1999 Products for use in contact with drinking water and Section 1417 of the US Safe Water Drinking Act.

Grade control

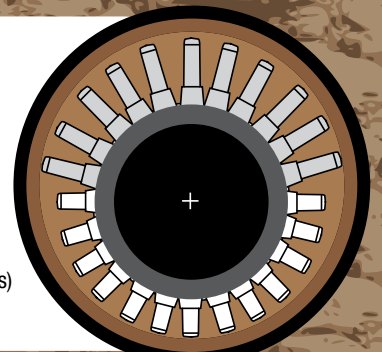
Centered & restrained

Spacer comprised of the same HDX 65 segment (65mm runners)



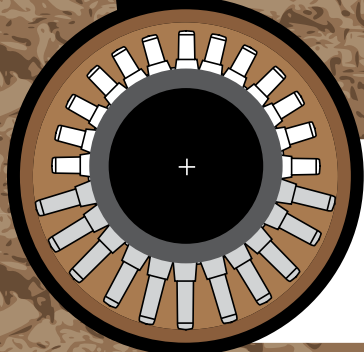
Non-centered & restrained

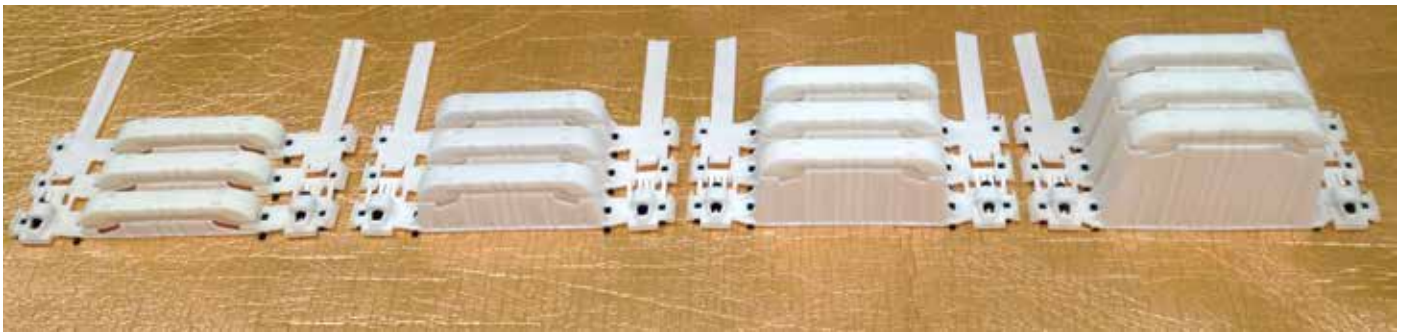
Spacer comprised of HDX 125 segments (125mm runners) above the pipe and HDX 65 segments (65mm runners) below pipe



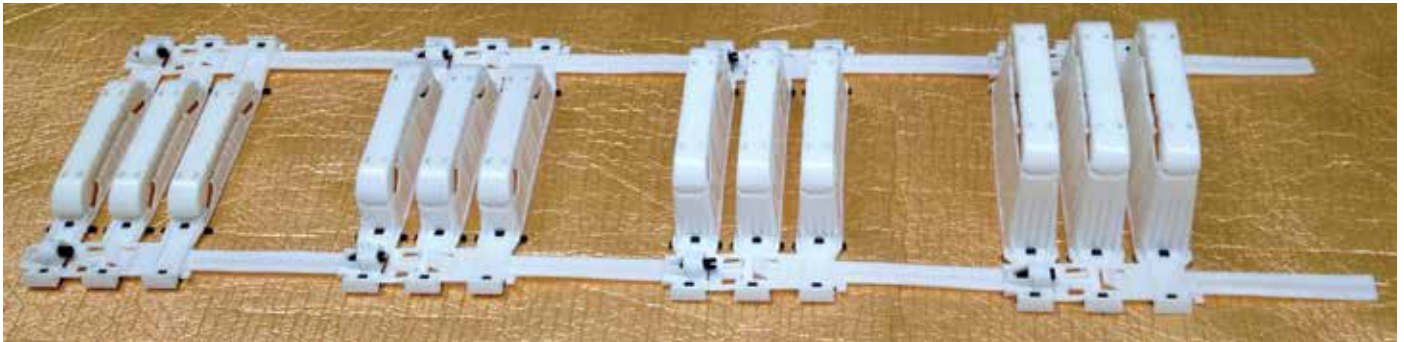
Non-centered & restrained

Spacer comprised of HDX 65 segments (65mm runners) above pipe and HDX 125 segments (125mm runners) below pipe





Spacers can be made from any combination of available runner heights by joining different HDX segments together. These pictures compare the runner heights the different HDX segments (HDX 38, HDX 65, HDX 90, and HDX 125). The HDX # corresponds to the height of each of the three runners on the segment.



Reduced running friction and wear resistance

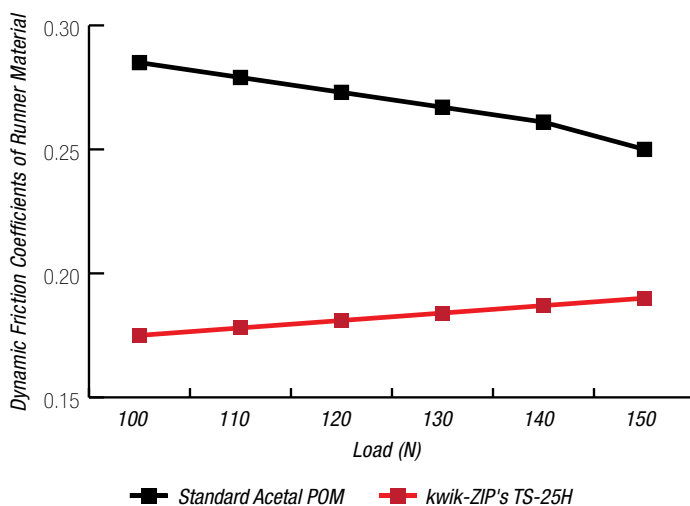
Standard Acetal POM is well known among engineering plastics as being one of the best performers when it comes to applications requiring excellent abrasion / wear resistance and a low coefficient of friction. Standard Acetal POM is better than materials such as Nylon and HDPE in this regard.

The HDX Spacer is constructed with wear pads on the runners made from an Acetal POM material called Kepital TS-25H that has been specially modified to attain even better abrasion resistance and a lower coefficient of friction than standard and other specialty grades of Acetal POM, especially under high load conditions. These properties allow for greater run lengths and lower insertion forces during installation.

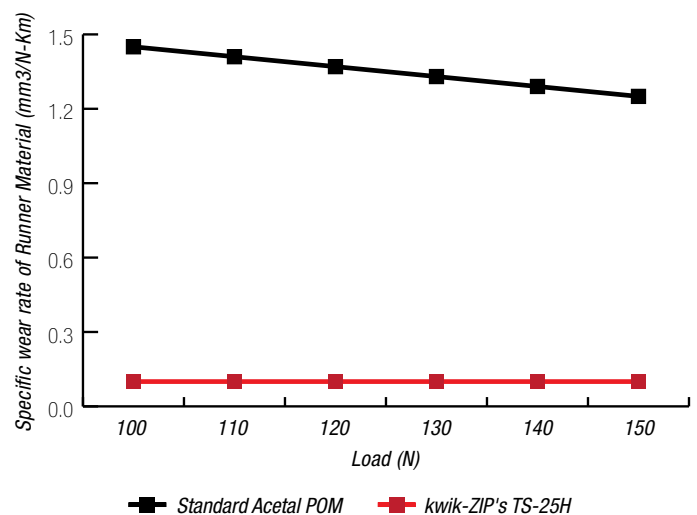
The graphs compare the dynamic coefficient of friction, and the wear rate (against carbon steel) of the material used to make the HDX runners (TS-25H) with Standard Acetal POM.

As demonstrated the abrasion resistance and low friction qualities of the kwik-ZIP HDX Runners are excellent, and superior to runners made from other Engineering Plastics that are specially formulated for superior wear and friction properties.

Superior Friction Properties of HDX Runners
Sliding against Mild Steel (Speed = 500 mm/s)



Superior Wear Properties of HDX Runners
Sliding against Mild Steel (Speed = 500 mm/s)



Distribution, Packaging & Storage

Kwik-ZIP HDX Spacers are distributed via kwik-ZIP's extensive network of Drilling and Civil Industry Distributors which are located throughout Australia, New Zealand, North and South America, and in some European locations. Kwik-ZIP also holds extensive inventory levels of all models at its own warehouses in both Australia and the USA, and supplies wholesalers from these facilities.

Due to the variety of runner heights and segmented design of the HDX system, project needs can be accommodated by off the shelf models, thus removing the delays associated with manufacturing to order. This generally allows products to be dispatched to the customer within 24 hours of order.



Like all products within the kwik-ZIP Centraliser and Spacer range, the HDX system's segmented design not only allows for a huge range of suitability in relation to pipe diameter, but also provides for very efficient packaging and storage in stackable units. Each segment (3 runners per segment) is designed to stack with other units in the most compact way possible to minimise volume and therefore shipping and storage costs. Each carton contains 20 HDX units, allowing for up to 900 units per pallet (depending on runner height). The table and images on this page illustrate the freight and storage efficiency of the HDX Spacer system.

Product (Note – Each unit includes incorporates 3 runners)	Part No.	Units Per Ctn	Approx Ctn Dimensions (L x W x H)	Approx Gross Ctn Weight	Cartons Per Pallet	Units Per Pallet	Pallet Dimensions
HDX 38 (38mm/1.5" Runner Height)	00038	20	37 x 36 x 34cm 14.6 x 14.2 x 13.4"	11Kg 24.2lbs	45	900	111 x 110 x 185cm 43.7 x 43.3 x 72.8"
HDX 65 (65mm/2.6" Runner Height)	00065	20	37 x 36 x 36cm 14.6 x 14.2 x 13.4"	13Kg 28.6lbs	45	900	111 x 110 x 198cm 43.7 x 43.3 x 80"
HDX 90 (90mm/3.5" Runner Height)	00090	20	37 x 36 x 39cm 14.6 x 14.2 x 15.4"	14.6Kg 32.1lbs	36	720	111 x 110 x 171cm 43.7 x 43.3 x 67.3"
HDX 125 (125mm/5" Runner Height)	00125	20	37 x 36 x 42cm 14.6 x 14.2 x 16.5"	17Kg 37.4lbs	36	720	111 x 110 x 183cm 43.7 x 43.3 x 72"

HDX Spacers are made with rubber grip pads under the collars to prevent slippage on the pipe. However banding of collars with 9.5mm (3/8") S/S strapping may be required in certain circumstances.

HDX Spacer runners incorporate a load sharing suspension system allowing heavy loads to be shared across multiple runners, thereby reducing point loading and increasing the overall load capacity of the spacer.

Selecting Model (Runner Height):

The HDX Model # corresponds to the runner height. To select the correct runner height, calculate the annular clearance between the inner pipe and the outer casing (assuming centralisation in the casing). The annular clearance is half the difference between the outer casing ID and the inner pipe OD.

For ease of insertion it is recommended that the selected runner height is at least 10mm (0.4") less than the annular clearance. The runner height should also be at least 15mm (0.59") greater than the height of the bell.

Different casing positions can be achieved by combining different runner heights in the same spacer, including centred, or restrained. Contact kwik-ZIP if assistance is required.

Spacer Interval:

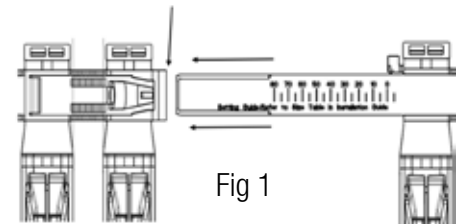
Subject to project specifications, recommended intervals for medium to heavy weight pipe (including Standard Ductile Iron) up to 1200 DN (48" NPS) are 1m (3.28 ft) in the case of an un-grouted annulus, and 2m (6.56 ft) when the annulus is grouted. A spacer should also be placed within 500mm (20") of each end of the pipe. For pipe diameters greater than 1200 DN (48" NPS), please contact kwik-ZIP for further advice. Flange weight should also be considered on large diameter Flanged Ductile Iron.

Subject to project specifications and pipe sag between spacers, intervals of up to 3m (9.84 ft) can be used on light to medium weight pipe (eg. PVC & HDPE) when the annulus is to be grouted.

If installing on heavy weight pipe with an annular clearance of greater than 200mm (7.875") (more than 400mm (15.75") difference between inner pipe OD and casing ID), contact kwik-ZIP for confirmation of the interval between spacers.

Installation Instructions

Step 1. When you have established the appropriate setting guide position [see table on rear page] place the segments on a flat surface and insert the male section of each segment into the mouth of the screw housing on the next segment as indicated by the arrows (Fig. 1). Ensure that the collar straps extend beyond and are fed under the strap deflector (Fig. 2).



Step 2. Line up the leading edge of each screw housing (Fig 1.) with the appropriate number on the Setting Guide.



Step 3. Once all segments are set, they can be wrapped around the pipe and the final joints can be fastened. This method allows the centralizer to be made up mostly by hand. Alternatively a cordless drill with screw driver attachment can be used provided care is taken not to over torque the screws. Always tighten the screws underneath the pipe last as this will provide greater tension and better grip. A flat screwdriver of approx 6mm (5/16") is used to tighten the screws once the segments are fixed to the pipe.

Important Notes:

Do not over tension the screws (Fig 3) as this may cause damage to the thread. Maximum torque of 10 inch-lbs is recommended.

kwik-ZIP® products should not be exposed to a naked flame or sparks from welding. Failure to shield the product whilst welding may result in damage.



Product selection guide

Model & (Runner Height) Part	Part #	Max Operating Temp (Deg C/F)	Fits pipe OD
HDX 38 : (1 ½" / ~ 38mm)	00038	80 C / 176 F	3.5" NPS (101.6 mm OD & Greater)
HDX 65 : (2.56" / ~ 65mm)	00065		
HDX 90 : (3.54" / ~ 90mm)	00090		
HDX 125: (4.92" / ~ 125mm)	00125		

Size table & setting guide

NPS	Pipe OD (mm)	Pipe OD (Inches)	Recommended # Segments	Banding Recommended	Approx Setting Guide Position
3.5	101.60	4.00	2		0
4	114.30	4.50	2		20
4.5	127.00	5.00	2		40
5	141.30	5.56	2		65
	150.00	5.91	3		5
	160.00	6.30	3		15
6	168.27	6.62	3		20
	180.00	7.09	3		30
	200.00	7.87	3		55
8	219.08	8.63	4		10
	240.00	9.45	4		25
	250.00	9.84	4		35
10	273.05	10.75	5		10
12	323.85	12.75	5		40
14	355.60	14.00	6		25
16	406.40	16.00	7		20
18	457.20	18.00	8		20
20	508.00	20.00	9		20
22	558.00	21.97	10		15
24	609.60	24.00	11		15
26	660.40	26.00	12		15
28	711.20	28.00	12		25
30	762.00	30.00	13		25
32	812.80	32.00	14	Yes	20
34	863.60	34.00	14	Yes	30
36	914.40	36.00	15	Yes	30
40	1016.00	40.00	17	Yes	30
42	1066.80	42.00	18	Yes	30
44	1117.60	44.00	19	Yes	30
46	1168.40	46.00	20	Yes	30
48	1219.20	48.00	21	Yes	30
52	1320.80	52.00	22	Yes	35
56	1422.40	56.00	23	Yes	40
60	1524.00	60.00	25	Yes	30

Note: For pipe greater than 800mm OD (32" NPS), for very heavy weight pipe, or if the pipe material is slippery, it is recommended that 9.5mm (3/8") stainless steel banding be applied over the collars. Contact kwik-ZIP for further information.

HDX Spacers are generally suitable for heavy pipe run lengths up to 300m (approx. 1,000 ft) in good condition casings. Longer run lengths may be possible with casing lubrication, banding, and/or closer spacer intervals. Contact kwik-ZIP for further advice.



United States of America:

Telephone + 1 972 790 0160
Facsimile + 1 972 790 9210
Email usa@kwikzip.com

DC Sales, PO BOX 153430, Irving, TX 75015-3430

Warehouse:
Dallas TX

Australasia

Telephone + 61 8 9725 4678
Facsimile + 61 8 9725 4700
Email sales@kwikzip.com

3 Barnard Street, Bunbury WA 6230, Australia

Warehouses:
Sydney NSW
Bunbury WA

CONDITIONS OF SALE AND USE / WARRANTY

Please visit <http://kwikzip.com/warranty-and-returns-policy/>
or contact support@kwikzip.com for conditions.