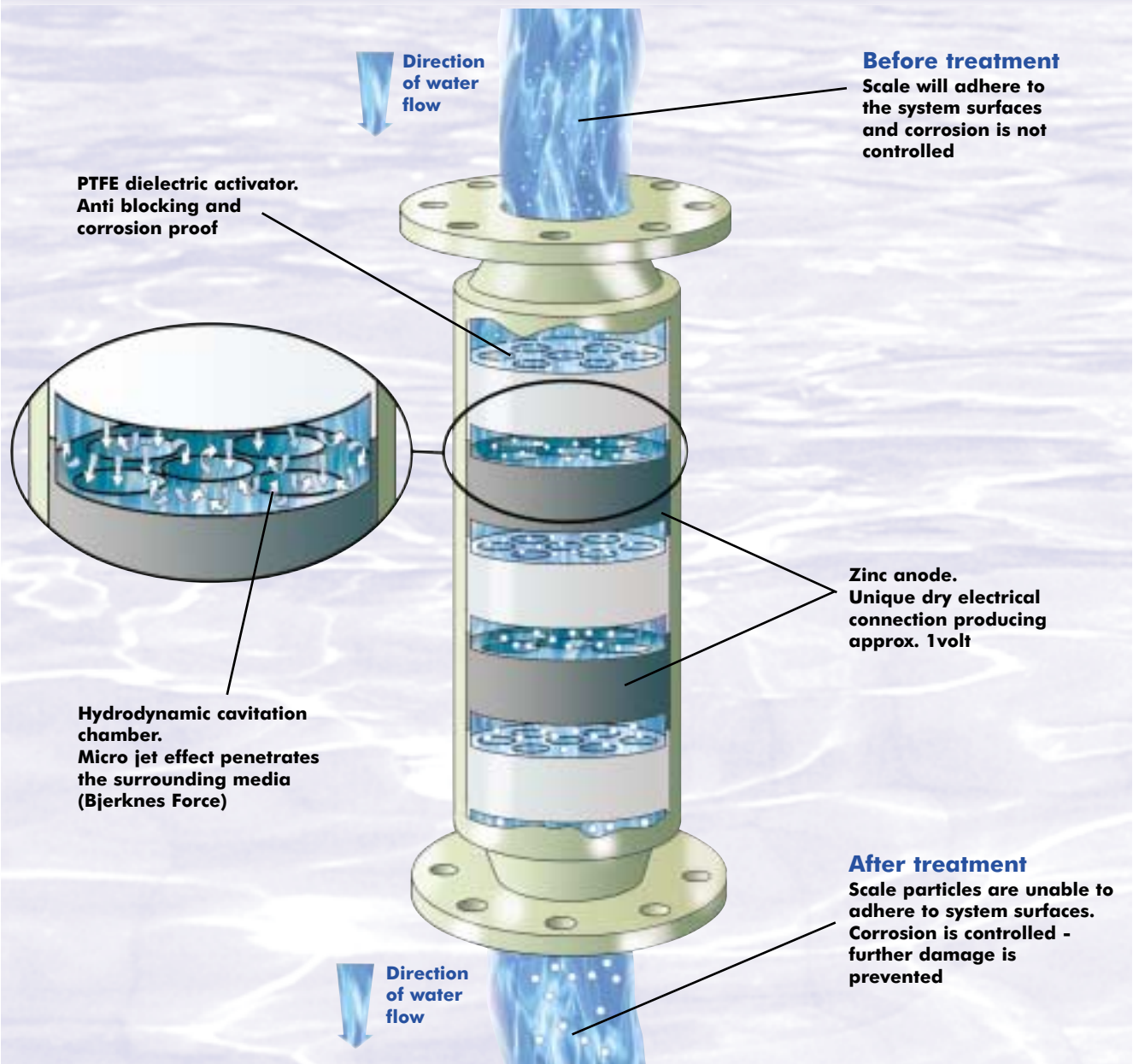


SCALE-BUSTER®

ISB® Technology

Scale-Buster: an electro-static and cavitation process with galvanic action



- Self cleaning and maintenance free
- Prevents and removes scale and corrosion
 - Handles total water systems
 - Suitable for hard and soft water
- Operates without the use of chemicals, magnets or electricity

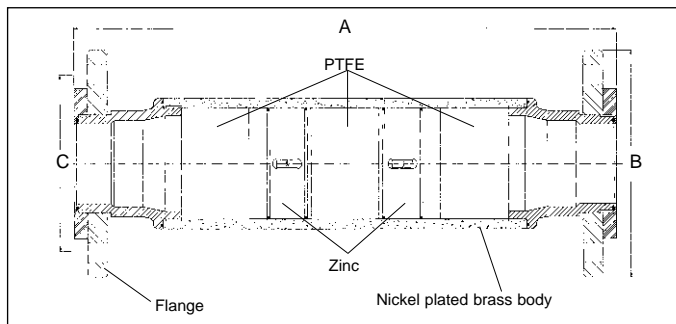


The function of Scale-Buster as a physical water conditioner is to inhibit and remove scale and/or corrosion in general pipework, heating and plumbing equipment, appliances, processing equipment and cooling towers etc.

Industrial Range

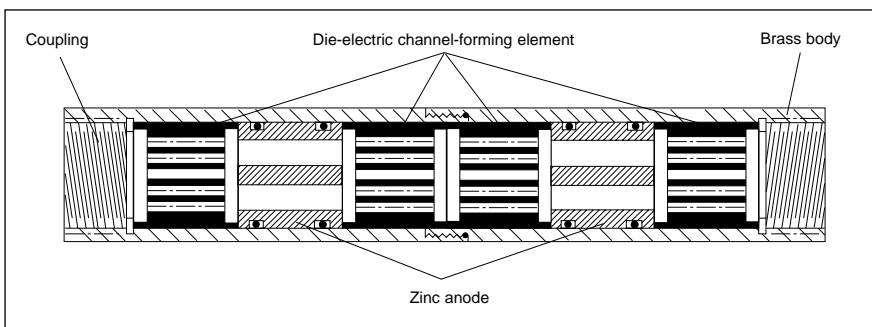
MODEL	PIPE SIZE		O/A LENGTH-A mm	FLANGE DIA-B mm	BOLT CIRCLE DIA-C mm	NETT WEIGHT kg
	mm	in				
ISB SF 65	65	2.5	445	185	145 (4 @ 18)	17
ISB SF 75	75	3	445	200	160 (8 @ 18)	27
ISB SF 100	100	4	445	220	180 (8 @ 18)	39
ISB SF 125	125	5	445	250	210 (8 @ 18)	53
ISB SF 150	150	6	520	285	240 (8 @ 22)	83
ISB SF 200	200	8	520	340	295 (8 @ 22)	120

* Number of bolt holes and diameter. ISO Spec. 7005.3 - PN 16



Commercial Range

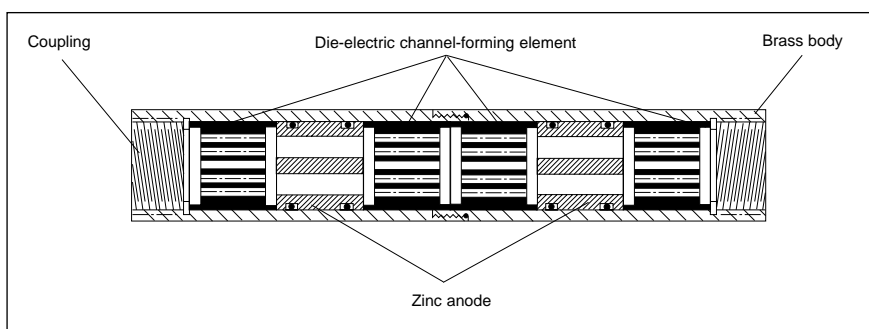
MODEL	PIPE SIZE		CONNECTION SIZE BSP	O/A LENGTH mm	O/A DIA. mm	NETT WEIGHT kg
	mm	in				
ISB C 15	15	1/2	1/2 in male	120	30	0.4
ISB C 20	20	3/4	3/4 in female	260	44	2.2
ISB C 25	25	1	1 in female	300	57	3.5
ISB C 32	35	1 1/4	1 1/4 in female	330	65	4.2
ISB C 40	40	1 1/2	1 1/2 in female	360	69	5.2
ISB C 50	50	2	2 in female	390	76	8.8



Low Flow Range

The low flow range is designed specifically for applications where water consumption is significantly less than the standard pipe size supplying the appliance. Such products should be used **in conjunction with complete building protection.**

MODEL	FLOW RATE PER SECOND. (Approx)	CONNECTION SIZE BSP	O/A LENGTH mm	NET WEIGHT kg	TYPICAL APPLICATIONS (Examples)
ISB D 03	0.01 - 0.03 L	½ in female	100	0.2	Humidifiers Combi/Steam ovens
ISB D 06	0.03 - 0.07 L	½ in female	100	0.2	Vending machines Instant water heaters
ISB D 07	0.07 - 0.15 L	½ in female	100	0.2	Electric showers



General information about Scale-Buster

FLOW RATES Optimal flow rates range between 1 to 2 metres per second and therefore performance is not sensitive to fluctuation in rate of flow or variable water pressures. The body is specifically constructed to compensate for such irregularities. **It is recommended that a unit is selected to match the flow rate** as opposed to pipe size (refer to How to Size Scale-Buster on page 5)

INSTALLATION Where water quality is poor, it is recommended that the product be installed vertically to avoid build up of debris. Scale-Buster is designed for use in potable water supplies and apart from certain instances, such as central heating and cooling towers, is best installed in the cold water feed supply lines. Earthing is important to the performance of ScaleBuster (see details on back cover).

PIPE SIZES Our full range of Scale-Buster models ranges from 1/2in (15mm) to 8in (200mm) Sizes outside these models can be produced subject to discussion.

SPECIALS Units required for conditions exceeding those stated above, please contact distributor.

WARRANTY There is a 5 year manufacturer's warranty. For full conditions contact distributor.

BODY MATERIAL **Industrial range**
Flanged units are rated at a maximum working pressure of 16 bar (40 bar pressure models are available - details on request)
Body and flanges: Nickel plated brass/phosphur bronze to Defence Standard 035 finish.

Commercial and Low Flow range
Rated at max. 16 bar working pressure. Constructed of: Brass BS 2874
CZ121; Zinc BS 6561; Polytetrafluoroethylene (PTFE) DEF standard AQAP4 MOD approval.

SPECIAL NOTE When used in non-potable water applications or in a processing function it may be necessary to have an inline filter prior to Scale-Buster and sensitive equipment.

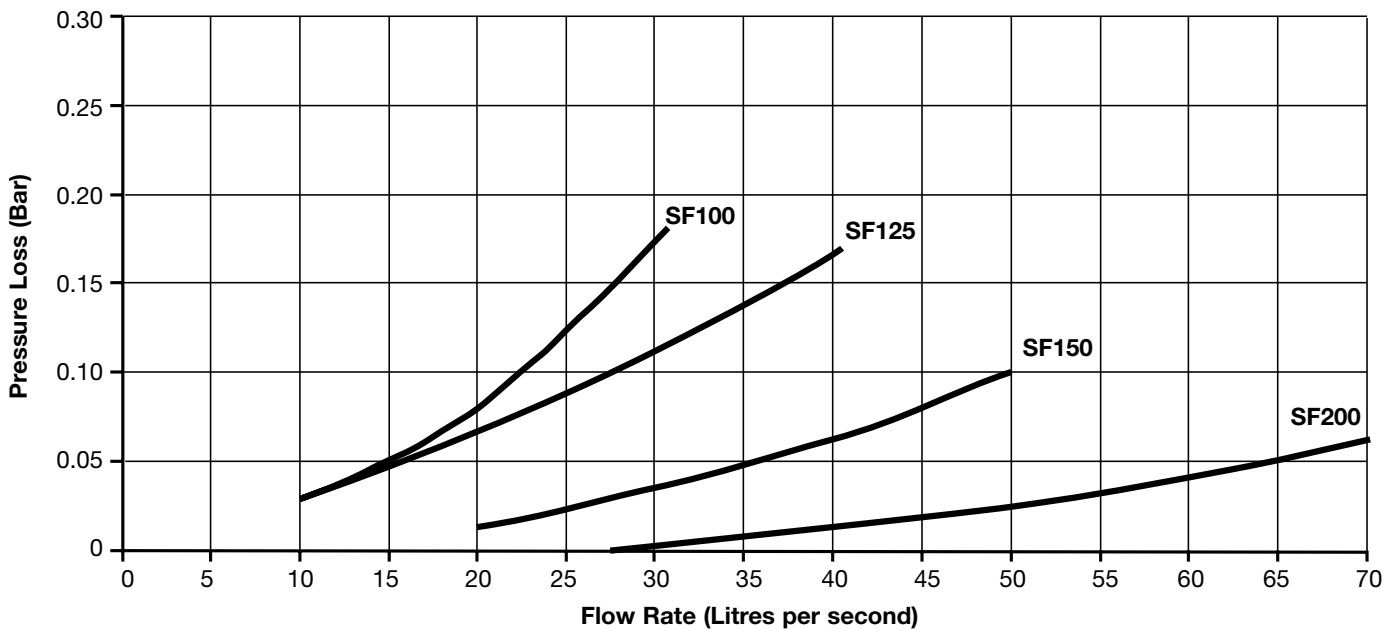
*Designed and manufactured in UK by Ion Enterprise Ltd.
Scale-Buster Patent EUR 949047/12.0. Quality ISO 9001:2000 ISOQAR Certificate No. 1185/96
The manufacturer reserves the right to change the specification without prior notice.*

Pressure Loss Statistics

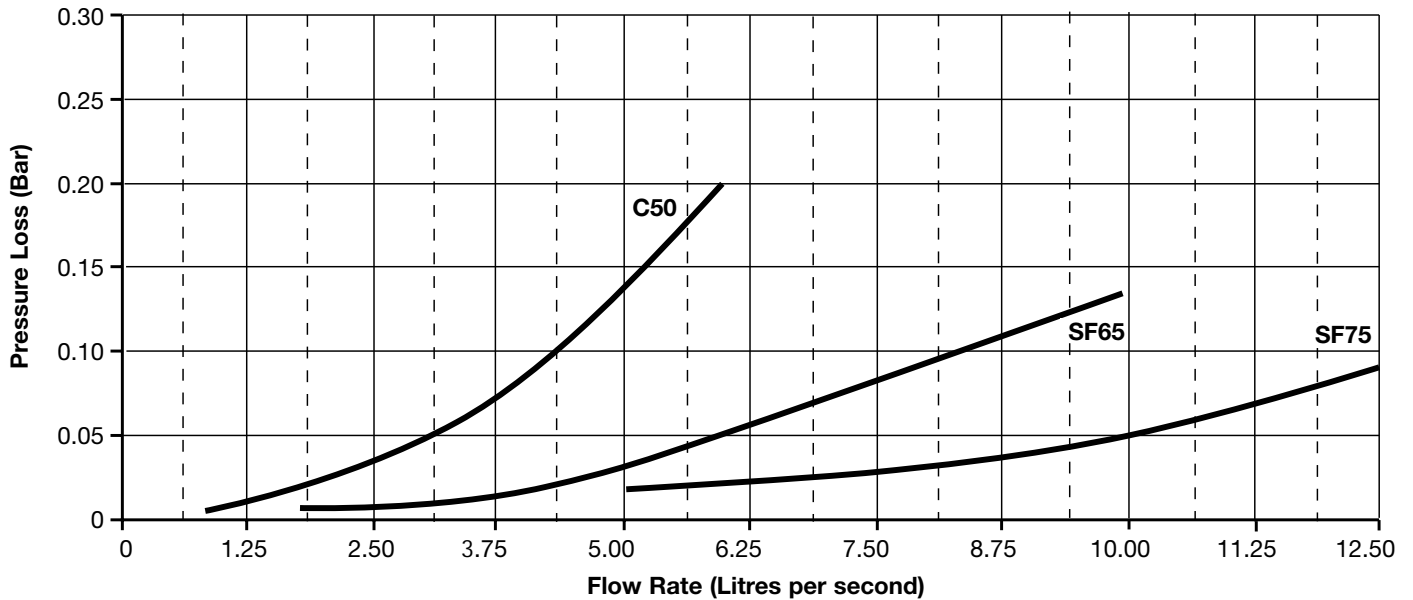
Metric/imperial comparison chart

1.0 bar	10.0 m	1000 cm	100 kpa	33.00 ft	396.00 in
0.1 bar	1.0 m	100 cm	10 kpa	3.30 ft	39.60 in
0.01bar	0.1 m	10 cm	1 kpa	0.33 ft	3.96 in

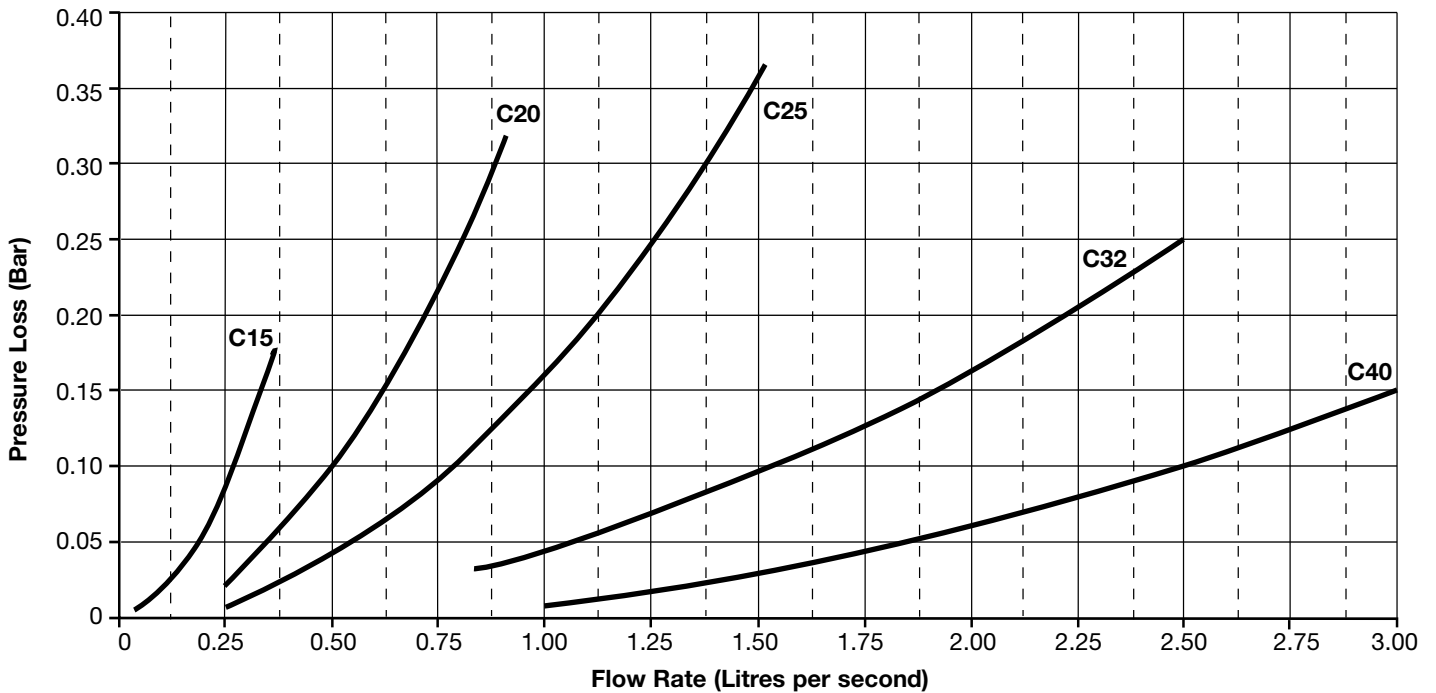
Industrial Range



Industrial/Commercial Range



Commercial Range



How to size Scale-Buster

- Calculate maximum flow rates as per normal procedures - (peak demand)
- Estimate likely average flow rate demand
- Initially size on b), then calculate pressure loss at peak demand a). If pressure loss (at peak demand) is acceptable you have correctly sized Scale-Buster
- If peak demand has too high a pressure loss then increase one pipe size until correct balance is achieved.

Recommended Flow Rates

Based on 1 to 2 metres per second mean average velocity.
For short time periods a flow rate up to 3 metres per second is acceptable.

Low Flow Range			Commercial Range			Industrial Range		
MODEL	SIZE in	FLOW RATE litres per second	MODEL	SIZE in	FLOW RATE litres per second	MODEL	SIZE in	FLOW RATE litres per second
ISB D 03	½	0.01 - 0.03	ISB C 15	½	0.13 - 0.26	ISB SF 65	2½	3.25 - 6.50
ISB D 06	½	0.03 - 0.07	ISB C 20	¾	0.26 - 0.52	ISB SF 75	3	4.50 - 9.00
ISB D 07	½	0.07 - 0.15	ISB C 25	1	0.50 - 1.00	ISB SF100	4	8.00 - 16.00
			ISB C 32	1¼	0.80 - 1.60	ISB SF125	5	12.50 - 25.00
			ISB C 40	1½	1.20 - 2.40	ISB SF 150	6	17.00 - 34.00
			ISB C 50	2	2.00 - 4.00	ISB SF 200	8	34.00 - 68.00

INSTALLATION INSTRUCTIONS

Failure to comply will diminish performance and negate product warranty

Where water quality is poor, it is recommended that the Scale-Buster be installed vertically to avoid build up of debris and a filter should be considered. In potable water supplies it is best to install Scale-Buster in the cold water feed supply lines. In certain instances, such as central heating, hot water returns and cooling towers, Scale-Buster should be installed towards the cool end of the recirculating system.

Care must be taken to ensure that connecting joints requiring applied heat (blow torch) **must not be used** in the vicinity of Scale-Buster as the conducted heat will damage the unit's interior.

Where booster pumps are used the Scale-Buster should be positioned at least 2 metres away from pumps as the magnetic fields may interfere with performance levels

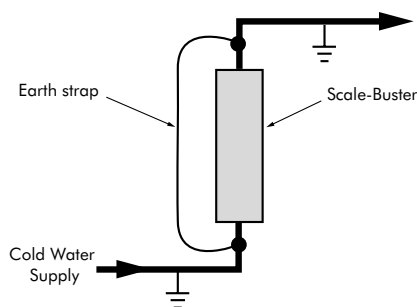
ELECTRICAL EARTH BONDING INSTRUCTIONS

ELECTRICAL EARTH BONDING IS ESSENTIAL AND INSTRUMENTAL TO THE SCALE-BUSTER PERFORMANCE, IN ADDITION TO PROVIDING A SAFE CONTINUITY OF EARTH BONDING FOR OTHER PURPOSES

In gravity fed systems where storage tanks are involved, even if the water is subsequently boosted, it is necessary to **cross bond the earthed incoming pipework with the downservice pipework** to ensure continuity of earthing. This continuity procedure is also important/necessary where there is a break in the pipework ie metal-to-plastic-to-metal for optimal performance.

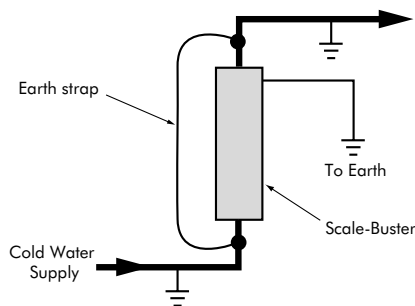
SCHEMATIC A

Where pipework is metal, properly grounded (earthed) and with no feed back from any stray currents from electrical equipment upstream.



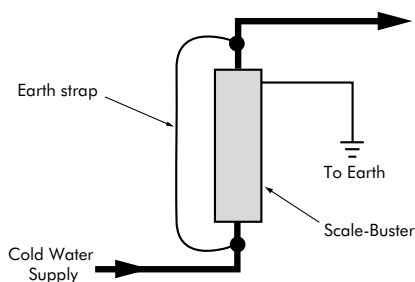
SCHEMATIC B

Where pipework is metal, properly grounded (earthed) but with the potential/actual feedback of stray currents from electrical equipment upstream.



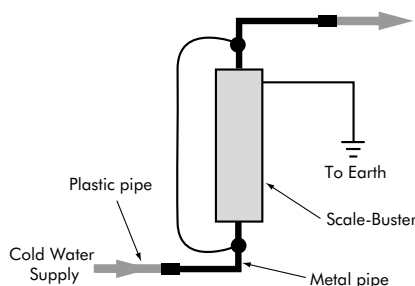
SCHEMATIC C

Where pipework is not adequately grounded (earthed).



SCHEMATIC D

Where Scale-Buster is installed into **plastic pipework** it is important that metal pipework is installed both before and after the Scale-Buster. The ideal length of pipework before and after the Scale-Buster should be pipe diameter x 30 wherever possible.



WHEN **PLASTIC PIPES** ARE USED BE SURE TO BOND THE ACTUAL SCALE-BUSTER TO EARTH

Where female BSP thread connections apply use only **parallel** and not **tapered** thread fittings.



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Other Major Water Treatment Products

- Cyclone filtration
- UV disinfectant
- Chlorine dioxide treatment

Literature Available

Literature available on all products

SBT issue: 1 12.06