

HumeCeptor[®] system Installation guide

Issue 2



Purpose of this guide

This guide outlines the construction procedures and requirements for the installation of the HumeCeptor® system. This document should be reviewed by supervisory personnel prior to commencing installation.

The following information is of a general nature only and is not intended to be exhaustive or impose or imply any particular requirements and should be read in conjunction with project-specific documents including the contract, project specifications and project drawings. This guide is not a substitute for the project documentation.

For typical installation requirements please refer to the Humes general assembly standard drawings or Humes project-specific drawings. These are system assembly drawings only and do not constitute and should not be construed as a site layout; the site layout should be specified in project documents provided by the consulting engineer who has been engaged by the asset owner.

Where the contents of this guide differ from project specifications and drawings, supervisory personnel should consult with a Humes engineer. In the event of any conflict between the information in this guide and local legislative requirements, the legislative requirements will take precedence.

It is the responsibility of the site owner and its contractors and consulting engineers to determine the site's suitability for construction, including access for plant, equipment and other issues.

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Safety advice

The HumeCeptor® system must be installed in accordance with all relevant health and safety requirements, including the use of PPE and fall protection where required.

Confined space entry

Installation of the unit may require confined space entry. All equipment and training must comply to SHE regulations. It is the responsibility of the contractor or person/s entering the unit to proceed safely at all times.

Personal safety equipment

The contractor is responsible for the provision of appropriate personal protection equipment including, but not limited to safety boots, hard hat, reflective vest, protective eyewear, gloves and fall protection equipment. Make sure all equipment is used by trained and certified personnel, and is checked for proper operation and safety features prior to use.

Handling

The customer is responsible for unloading of the precast components from the delivery vehicle. The customer should familiarise themselves with the site conditions, having regard for suitable space above and around the excavation in order to install the unit safely. Particular attention should be given to safety hazards such as overhead power lines and other services in the vicinity when considering positioning of cranes.



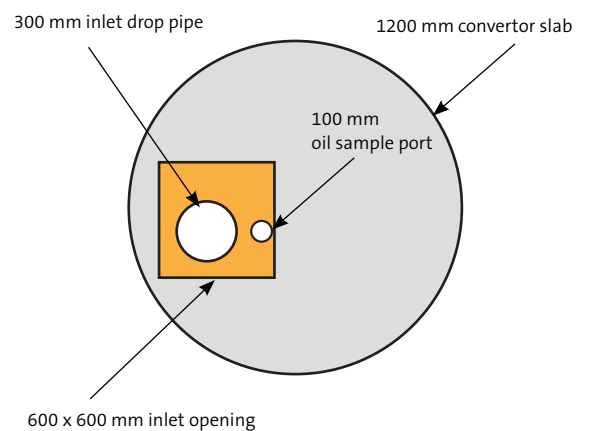
Installation of STC2 model

1. Excavate a hole approximately 2.5 m x 2.5 m at base to accommodate the Humeceptor STC2 which is 1560 mm diameter. If shoring is required, allow 3.5 m x 3.5 m to allow for removal of shoring struts prior to backfilling.
2. Depth from surface level to inlet invert will vary from unit to unit. For depth from inlet invert to underside of base refer to the project drawing for exact dimension.
3. It may be necessary (subject to design by the project engineer) to place a suitable separation type geotextile followed by an aggregate subgrade (200 - 300 mm depth) prior to placing the treatment chamber base section.
4. Place treatment chamber base section onto levelled subgrade. The use of a lifting beam is recommended to ensure a straight chain lift and avoid damage to the joint profile. Check for centre using string line and plumb. Ensure base is level.
5. Mix 2-part megapoxy in accordance with the manufacturer's directions. Trowel megapoxy onto both bottom and top faces of base section joint around complete circumference and lower the bypass chamber onto base section. Ensure correct alignment of inlet and outlet.
6. Place Bostik mastic sealant or equivalent (in accordance with the manufacturer's directions) onto top face of bypass chamber joint around complete circumference and lower the bypass chamber converter slab. Ensure correct alignment of inlet grate opening, directly above the 300 mm inlet drop pipe. When looking from directly above you should be able to see the 100 mm oil sample port and all of the 300 mm inlet drop pipe opening (see Figure 2).

Figure 1 – HumeCeptor® STC2 components



Figure 2 – Component alignment - Plan view



7. Where there is a requirement to extend the bypass chamber towards surface level, trowel megapoxy onto top faces of the sections to be joined and join.
8. Fix concrete surround/frame and grate over opening. Make up rings may be used to adjust finished surface level.
9. Backfill to outlet pipe level, using granular material and good compaction methods.
10. Connect inlet and outlet pipes (normally using Kor'N'Seal boots). Lube Kor'N'Seal boots prior to insertion of pipes if required. Place stainless steel pipe clamps around Kor'N'Seal boots and tighten.
11. Backfill and compact to surface level.



Left:
HumeCeptor® STC2
with extended
bypass chamber
and Kor'N'Seal
boots.

Installation of STC3 - STC7 models

1. Excavate a hole large enough to accommodate the treatment chamber base section. If shoring is required, allow sufficient space all around to allow for removal of shoring struts prior to backfilling.
2. Depth from surface level to inlet invert will vary from unit to unit. For depth from inlet invert to underside of base refer to the project drawing for exact dimension.
3. It may be necessary (subject to design by the project engineer) to place a suitable separation type geotextile followed by an aggregate subgrade (200 - 300 mm depth) prior to placing the treatment chamber base section.
4. Place treatment chamber base section onto levelled subgrade. The use of a lifting beam is recommended to ensure a straight chain lift and avoid damage to the joint profile. Check for centre using string line and plumb. Ensure base is level.
5. Mix 2-part megapoxy in accordance with the manufacturer's directions. Trowel megapoxy onto both bottom and top faces of base section joint around complete circumference and lower the bypass chamber onto base section. Ensure correct alignment of inlet and outlet.
6. Place Bostik mastic sealant or equivalent (in accordance with the manufacturers directions) onto top face of bypass chamber joint around complete circumference and lower by-pass chamber convertor slab into place. Ensure correct alignment of access chamber opening in relation to the 600 mm decant pipe opening and 150 mm oil sample port. When looking from directly above you should be able to see down the 150 mm oil sample port opening and be able to see most of the 600 mm opening in the fibreglass insert (see Figure 10).

Figure 9 – HumeCeptor® components

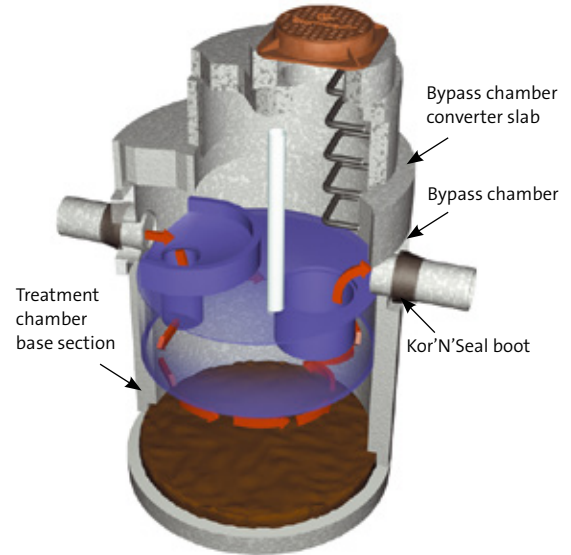
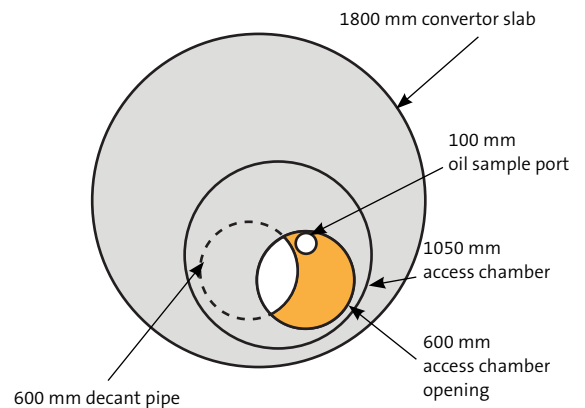


Figure 10 – Component alignment - Plan view



7. Where there is a 1050 mm access chamber, trowel megapoxy onto the surfaces to be joined. Lower 1050 mm access chamber convertor slab (reducing to 600 mm opening) onto access chamber, again ensuring correct alignment with clear view of entire 150 mm oil sample port, and partial view of 600 mm opening in fibreglass insert.
8. Fix concrete surround/frame and grate over opening. Make up rings may be used to adjust finished surface level.
9. Backfill to outlet pipe level, using granular material and good compaction methods.
10. Connect inlet and outlet pipes (normally using Kor'N'Seal boots). Lube Kor'N'Seal boots prior to insertion of pipes if required. Place stainless steel pipe clamps around Kor'N'Seal boots and tighten.
11. Backfill and compact to surface level.

Installation of STC9 - STC27 models

1. Excavate a hole large enough to accommodate the treatment chamber base section. If shoring is required, allow sufficient space all around to allow for removal of shoring struts prior to backfilling.
2. Depth from surface level to inlet invert will vary from unit to unit. For depth from inlet invert to underside of base refer to the project drawing for exact dimension.
3. It may be necessary (subject to design by the project engineer) to place a suitable separation type geotextile followed by an aggregate subgrade (200 - 300 mm depth) prior to placing the treatment chamber base section.
4. Place treatment chamber base section onto levelled subgrade. The use of a lifting beam is recommended to ensure a straight chain lift and avoid damage to the joint profile. Check for centre using string line and plumb. Ensure base is level.
5. Fit skid ring (rubber ring) to treatment chamber base. It is important to ensure that the tension in the ring is evenly distributed. Running a smooth bar around underneath the ring several times does this. Uneven tension can be detected by variability in ease of running bar around. Try to redistribute slack into the tense part of ring.
6. Lubricate skid ring and socket of treatment chamber top section with approved non-deleterious lubricant. Do not allow dirt to contaminate lubricant. Do not allow lubricant to get under ring.

Figure 11 – HumeCeptor® components

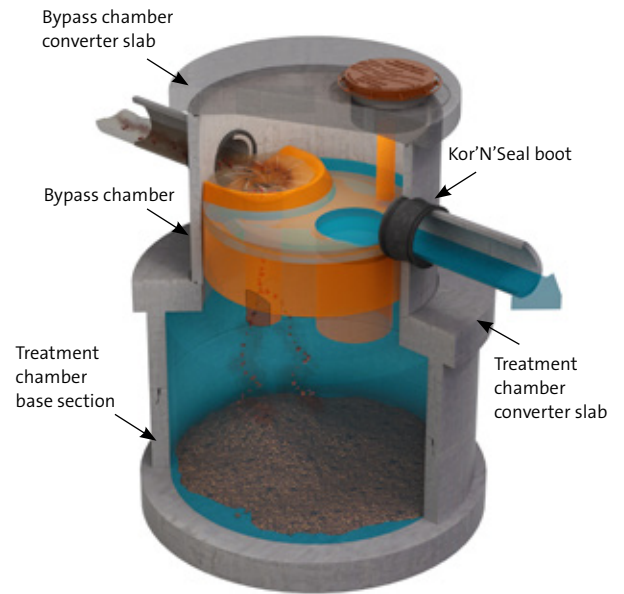
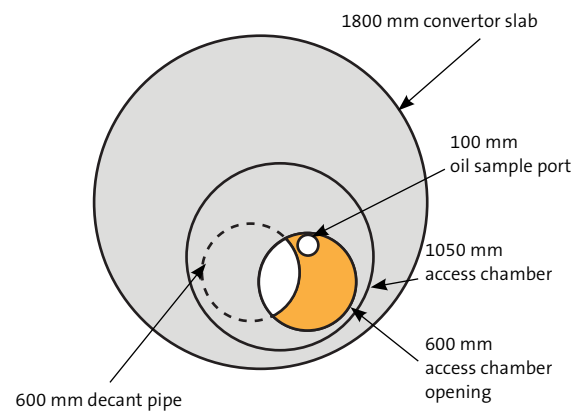


Figure 12 – Component alignment - Plan view



7. Again using a lifting beam, gently lower treatment chamber top section onto base section. Ensure that the top section is level prior to lowering fully. This can be achieved by placing 50 mm x 25 mm timbers on bottom, outside lip of base section in three equal spaces around circumference. Once down equally on timbers, crane can take up weight to allow removal of timbers and then gently lower. If top section drops down to one side **do not force** as this can result in major damage to chamber socket. Lift up and re-level prior to lowering again. The top section should drop down to fully meet bottom section around full circumference.
8. Mix 2-part megapoxy in accordance with the manufacturer's directions. Trowel megapoxy into treatment chamber convertor slab joint recesses around complete circumference.
9. Lower bypass chamber onto treatment chamber convertor slab, ensuring correct alignment of inlet and outlet.
10. Install the inlet drop pipe and orifice plate. The inlet drop pipe will only fit into the inlet hole at the weir when aligned correctly as it is elliptical (no glue required). When pushed in there should be a 100 mm overlap. Similarly, the orifice plate should be pushed into the inlet hole so that it sits approx. 25 mm below invert level.
11. Install the 600 mm decant pipe extension. The decant pipe extension will only slide in one way as it is tapered. Apply a generous coating of Epirez PU mastic (supplied by Humes) around the outside of the extension, approximately 50 mm from the top. Slide the extension into the 600 mm decant opening. There should be a 100 mm overlap once fully installed. Ensure a seal has been achieved between the extension and insert.
12. Place Bostik mastic sealant or equivalent (in accordance with the manufacturers directions) onto top face of bypass chamber joint around complete circumference and lower by-pass chamber convertor slab into place. Ensure correct alignment of access chamber opening in relation to the 600 mm decant pipe opening and 150 mm oil sample port. When looking from directly above you should be able to see down the 150 mm oil sample port opening and be able to see most of the 600 mm opening in the fibreglass insert (see Figure 12).
13. Where there is a 1050 mm access chamber, trowel megapoxy onto the surfaces to be joined. Lower 1050 mm access chamber convertor slab (reducing to 600 mm opening) onto access chamber, again ensuring correct alignment with clear view of entire 150 mm oil sample port, and partial view of 600 mm opening in fibreglass insert.
14. Fix concrete surround/frame and cover in place. Make up rings may be used to adjust to finished surface level. A length of pipe will already be connected to the oil sample port location. It may be necessary to extend this pipe with a female-ended length of pipe as per the Humeceptor assembly drawing.
15. Backfill to outlet pipe level, using granular material and good compaction methods.
16. Connect inlet and outlet pipes (normally using Kor'N'Seal boots). Lube Kor'N'Seal boots prior to insertion of pipes if required. Place stainless steel pipe clamps around Kor'N'Seal boots and tighten.
17. Backfill and compact to surface level.

Contact information

National sales 1300 361 601

humes.com.au

info@humes.com.au

Head Office

18 Little Cribb St
Milton QLD 4064
Ph: (07) 3364 2800
Fax: (07) 3364 2963

Queensland

Ipswich/Brisbane
Ph: (07) 3814 9000
Fax: (07) 3814 9014

Rockhampton
Ph: (07) 4924 7900
Fax: (07) 4924 7901

Townsville
Ph: (07) 4758 6000
Fax: (07) 4758 6001

New South Wales

Grafton
Ph: (02) 6644 7666
Fax: (02) 6644 7313

Newcastle
Ph: (02) 4032 6800
Fax: (02) 4032 6822

Sydney
Ph: (02) 9832 5555
Fax: (02) 9625 5200

Tamworth
Ph: (02) 6763 7300
Fax: (02) 6763 7301

Victoria

Echuca
Ph: (03) 5480 2371
Fax: (03) 5482 3090

Melbourne
Ph: (03) 9360 3888
Fax: (03) 9360 3887

South Australia

Adelaide
Ph: (08) 8168 4544
Fax: (08) 8168 4549

Western Australia

Gnangara
Ph: (08) 9302 8000
Fax: (08) 9309 1625

Perth
Ph: (08) 9351 6999
Fax: (08) 9351 6977

Northern Territory

Darwin
Ph: (08) 8984 1600
Fax: (08) 8984 1614



National sales 1300 361 601

humes.com.au

info@humes.com.au

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