INSTALLATION, OPERATING & MAINTENANCE MANUAL

FOR

HYDRAULIC EXTRACTOR

This Jiskoot Product is designed to provide outstanding service if correctly installed, used and maintained recognising the effects of the process conditions (temperature, pressure, wax/pour point, sediment, etc.).

Truly representative sampling of crude oils etc., cannot be achieved by one single product in isolation. A well designed system and operating procedures as laid down in the Sampling Standards ISO 3171*, API 8.2 and* IP Chapter VI section 2 *are mandatory.*

Please consult Jiskoot for further information and assistance.

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1 Warranty

This product should be supplied with a warranty card. Please complete and return it to register for warranty support.

In the event it is missing, to register for support, please contact us on +44 (0)1892 518000 or support@jiskoot.com, quoting the Jiskoot Order Number or Serial No with the following information:

- Date installed
- Full installation site details, including contact details
- Maintenance and operator contact details (where different from above)
- Product comments/feedback

If the product has been supplied as part of a Jiskoot system or assembly, please complete the warranty card for the system

2 Introduction

The Jiskoot Range of Hydraulic Extractors are designed for the safe insertion and withdrawal of Jiskoot in-line sample probes, ByScoops, JetMix Nozzles and Quills, and other in-line probes, under both depressurised and pressurised line conditions up to maximum flange rating. This arrangement enables the Hydraulic Extractor to withdraw the equipment for "pigging" or for maintenance.

The equipment will be inserted into the pipeline through a full bore isolation valve mounted to a pipe stub (see data sheet S31). Please note on ByScoops and JetMix Extractors, an additional isolating ball valve, situated after the full bore line isolation valve is required.

The Hydraulic Extractor is only fitted when insertion or withdrawal of the equipment is required; it is not part of the probe operation.

The Hydraulic Extractors vary in size for use from a Jiskoot 710 probe to an 8" JetMix Nozzle and Quill. They are dedicated to flange mounting with the series number indicating flange mounting centres, i.e. Series 43-0300-00 suited for a 300mm P.C.D. mounting, where a 43-0130-00 is suited to a 130mm P.C.D. mounting.

When required, the Hydraulic Extractor is bolted to the underside of the seal housing top flange and upper-side of the support tube flange respectively.

All Jiskoot Hydraulic Extractors incorporate two hydraulic rams, mounted to locating plates. The "Cylinder" being mounted to the upper plate and the piston rods attached to the lower plate. The cylinders are piped to no-spill (low loss/contamination) "flat face" quick release couplings, used to attach the two flexible hydraulic hoses to the self contained manual hydraulic pack.

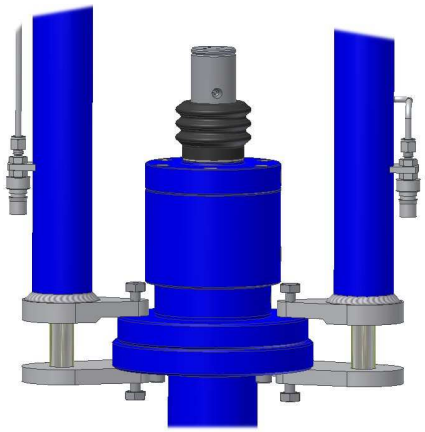


Figure 1 - Extractor Mounting

For insertion or extraction of the in-line equipment, connect the flexible pressure hoses from the manual hydraulic pump to the quick connect coupling on the Hydraulic cylinders. Operating the pump forces oil into the rams, pulling the two plates together and inserting the equipment into the line. Reversing the control valve forces the plates apart, extracting the equipment.

The rate of insertion or withdrawal is controlled via the two speed manual hydraulic power pack. Selection of the flow control valve fitted within the power pack, allows high flow at low pressure and low flow at high pressure, reducing the effort required to insert or retract the attached device.

A changeover valve fitted within the power pack allows insertion or retraction without removal of the flexible hoses.

The manual power pack incorporates a hard piped “Direction Control Check Valve”, providing safe and controlled extraction under maximum process pressures.

3 Jiskoot Hydraulic Extractor Range

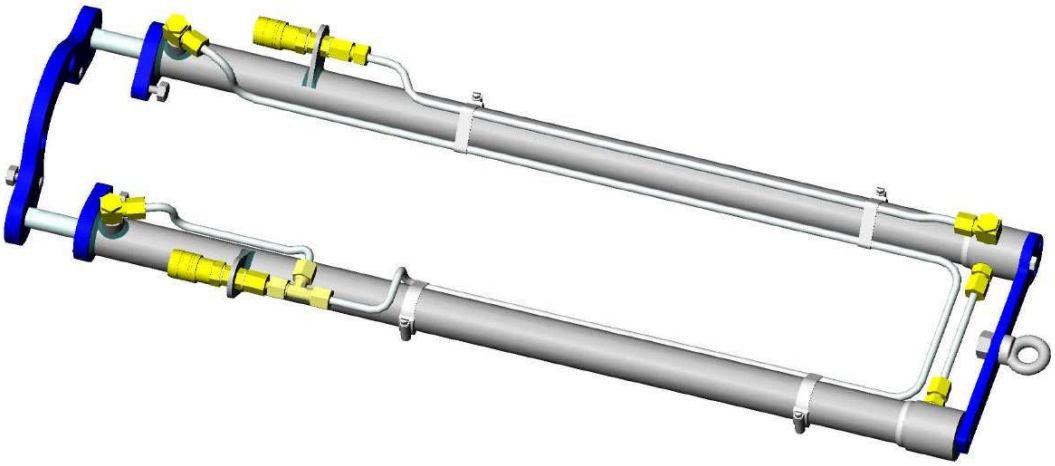


Figure 2 - 710 Probe Hydraulic Extractor – 130 Series

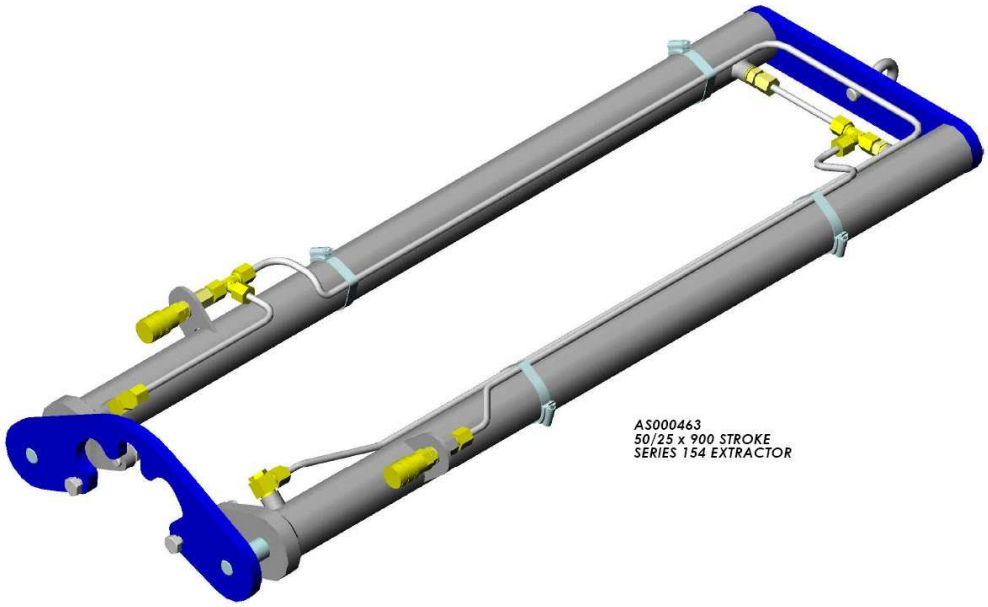


Figure 3 - 210 Probe, Inturbine and Byscoop Hydraulic Extractor - 154 Series

Figure 4 - 6" JetMix Nozzle and Quill Hydraulic Extractor - 230 Series

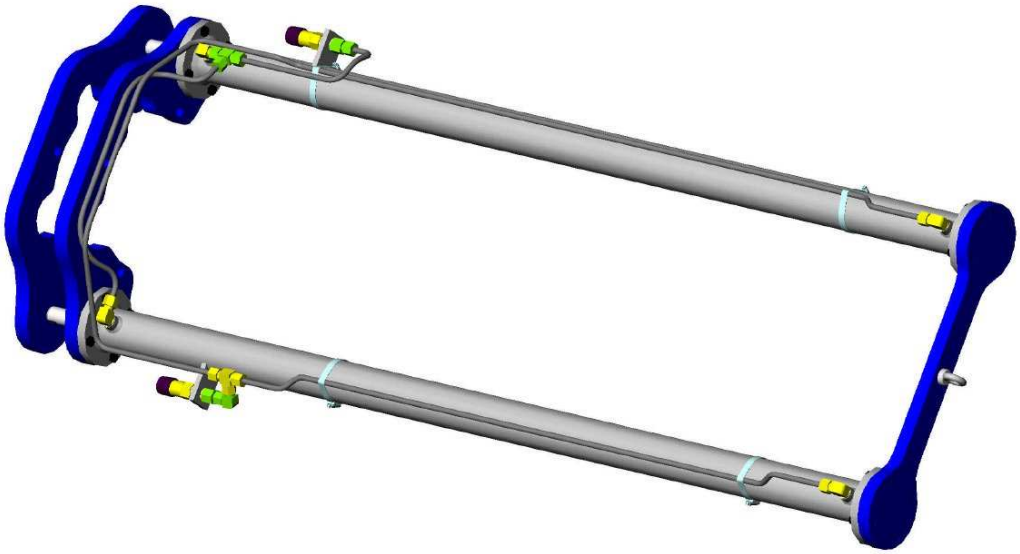


Figure 5 - 8" or 6" JetMix Nozzle and Quill Hydraulic Extractor - 300 Series

4 Operating Instructions

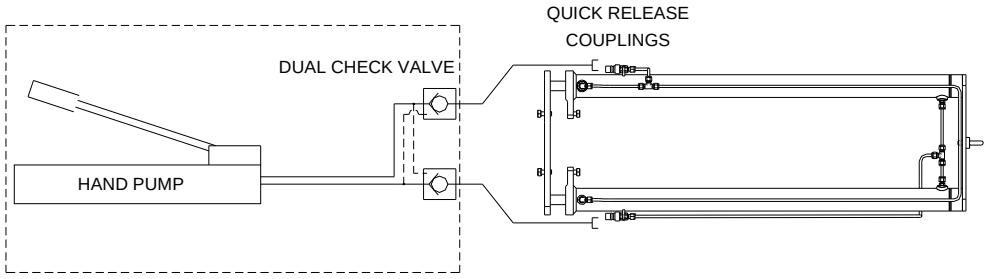
4.1 Safety Precautions

The extractor condition and operation MUST be checked prior to operational use. The extractor MUST be connected to the power pack and hydraulically powered to its full extent and hydraulically powered back to closed position to ensure the integrity of the seals, whilst purging any air and fully charging with hydraulic oil.

In the event the hydraulic extractor will not power out, check the volume of oil in the reservoir.

4.2 Preparing to withdraw the probe

1) Connect the flexible hoses to the extractor via the quick connect couplings. Select the direction and speed flow.



PIPING SCHEMATIC

2) With the extractor attached to the instrument and fully secured with correctly graded and sized bolts, pressurise as though inserting the probe to prevent any movement of the probe. Carefully loosen in turn- 2-3 turns only - the securing bolts attaching the support tube flange to the seal housing. Complete removal of the securing bolts.

3) Turn off any compressed air and electrical supply to the equipment.

4) Close all isolating valves on connections at line pressure. In the case of sampler probes, the 2-way and 3-way ball valves, if fitted to the probe, must be closed. For ByScoops, JetMix Nozzles and Quills and other fast-loop probes, the loop connections must be isolated and blanked off.

5) Disconnect all lines to the equipment - compressed air, hydraulic, sample line, fast-loop pipe-work (as applicable).

6) Remove any housing, insulation, and ancillary equipment fitted to the equipment.

7) With the aid of a suitable access platform and lifting equipment, fit the extractor to the equipment as shown in Section 4.3. Bolt the plates of the extractor to the seal housing using appropriate set-screws of the correct strength and length.

IMPORTANT: The correct metric series (Grade 8.8 or 12.9) bolts must be used to mount the extractor to the equipment.

8) Select the directional control valve on the power pack to reverse direction of the extractor.

Note: Pipeline pressure, if present, may force the probe to "jolt", however the extractor is prevented from free movement via the "Direction Control Check Valve".

9) Powering the manual hydraulic power will force the extractor, extracting the equipment from the line. Close the isolating valve on which the equipment is mounted. Depressurise and bleed the seal housing before disconnecting the extractor.

10) The equipment may now be removed from the isolating valve for maintenance.

4.3 Insertion

The procedure for inserting the equipment into either a pressurised or non-pressurised pipeline is generally the reverse of the withdrawal procedure:

1) Remove any bolts securing the support tube flange to the probe seal housing.

2) Push the probe through the seal housing, so as the head is within the recess of the seal housing (Refer to *Figure 6*).

3) With the aid of lifting equipment, securely mount the probe seal housing to the isolating valve, ensure that the bleed tappings (if fitted) on the equipment seal housing are closed.

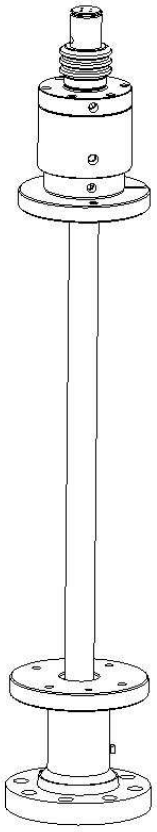


Figure 6 - Push the probe through the seal housing, so the head is within the recess of the seal housing.

4) Using suitable lifting equipment, fit the “open” Hydraulic Extractor to the equipment's support tube flange and seal housing using appropriate bolts (Refer to *Figure 7*). Connect all hoses to the power pack.
5) Open the isolating valve on which the equipment is mounted.
6) Operate the pump - this will insert the probe into the pipeline.
7) Once the equipment has been fully inserted, replace and tighten the bolts which attach the support tube flange to the seal housing.
8) With the aid of lifting equipment, remove the Hydraulic extractor from the equipment.

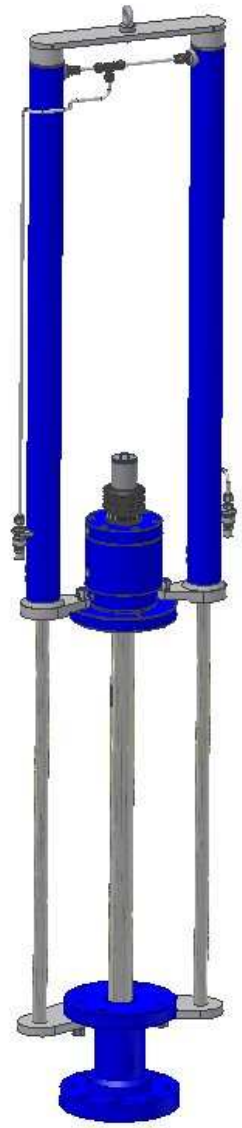


Figure 7 - Fitting the “open” Hydraulic Extractor to the equipment's support tube flange and seal housing.

5 Maintenance and Troubleshooting

The Jiskoot range of Hydraulic Extractor requires little maintenance apart from filling the reservoir on the pump with hydraulic oil (Tellus R5 or equivalent) and ensuring that the piping is free from air.

The extractor condition and operation MUST be checked prior to operational use. The extractor MUST be connected to the power pack and hydraulically powered to its full extent and hydraulically powered back to closed position to ensure the integrity of the seals, whilst purging any air and fully charging with hydraulic oil.

In the event the hydraulic extractor will not power out, check the volume of oil in the reservoir.

6 Disclaimer

Jiskoot Limited has taken every care in the preparation of this document, but shall not be liable for technical or editorial omissions made herein, nor for incidental or consequential damages resulting from the furnishing, performance or use of this material.

Jiskoot pursue a policy of continuous improvement, and information given herein may be updated without notice.

Further, this information is proprietary to Jiskoot Limited, and must not be disclosed to any third party.

0	Adapted from individual Hydraulic Extractor Manuals H01 (HE1B), H10 (710) & H23 (Jet Mix)	N.McGee	P.Whittle	29/10/2007
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