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CH | CHF | CHFA | CHD

BRUKSANVISNING • BRUGSANVISNING • KÄYTTÖOHJE • OPERATING INSTRUCTIONS

GEBRAUCHANWEISUNG • MODE D'EMPLOI • GEBRUIKSAANWIJZING

ISTRUZIONI PER L'USO • INSTRUCCIONES DE USO • INSTRUÇÕES DE USO

Thank you for the faith you have shown in us by choosing a REHOBOT product. REHOBOT stands for products of high quality and it is our hope that you will be able to use this product for many years.

To avoid functional disturbances, we recommend that you read these instructions thoroughly before using the product.

Receiving instructions

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

Read the warnings and instructions to prevent personal injury or damage to property. Take all appropriate safety precautions and wear suitable safety equipment, such as gloves, safety glasses, etc.

REHOBOT AB accepts no liability for injury or the consequences of using REHOBOT products without taking suitable safety precautions, using a product or system for the wrong application, or through inadequate maintenance. If in any doubt contact REHOBOT or an authorised REHOBOT dealer.

Technical description

REHOBOT hollow cylinders are available in four different versions:

- CH - Single-acting
- CHF - Single-acting with spring return
- CHFA - Single-acting with spring return, aluminum
- CHD - Double-acting

Information regarding the model type, capacity, maximum working pressure and serial number is engraved on the cylinder tube, see Fig. 1.

System construction

Always plan a hydraulic system by choosing products that are suitable for the task in hand. Check product limitations regarding pressure range, lifting capacity and compatibility. The maximum working pressure of the system must not exceed the maximum working pressure of any product in the system.

We recommend the use of pressure gauges with any hydraulic system to ensure that it is operated within its safe working range.

Make sure that all hydraulic hoses, connections, etc., are connected to the right connection port (pressure or return port) on the pump, ram, valve or other hydraulic component.

Applications

Because of its design the hollow cylinder can be used for both pushing and pulling operations.

Pushing operations

Pushing/Lifting

When a hollow cylinder is used as a conventional ram we recommend the use of a solid pressure head (THR). (See under heading Accessories.)

Position the cylinder on or against a solid flat surface before lifting. Never lean over a pressurised cylinder or pump lever. Secure the load before lifting to make sure that it cannot roll or slip.

- Never work underneath a raised load without first securing it with blocks or some other mechanical support.
- Never disconnect a cylinder from the pump when the hydraulic system is under pressure.

Pushing onto shafts (Fig. 2)

When the cylinder is used for applications such as pushing a bearing (A) onto a shaft (B) it is important that the stop or nut (C) has as large a surface area as possible so that the force is spread over the entire base of the cylinder.

- Never stand behind a cylinder when carrying out this type of work. If the stop or shaft breaks this could result in injury.
- Never disconnect a cylinder from the pump when the hydraulic system is under pressure.

Pulling operations

Pulling operations usually exploit the fact that the cylinder is hollow.

Fitting (Fig. 3)

A rod (B) is inserted through the object to be pulled (A) and through the cylinder itself. Stops (C) are fitted to both ends of the rod (B). A pressure head with threaded hole can be used as a stop at the piston end.

Removal (Fig. 4)

A rod (B) is inserted through the object to be pulled (A), through the spacer (D) and through the cylinder itself. Stops (C) are fitted to both ends of the rod (B). A pressure head with threaded hole can be used as a stop at the piston end.

- Never stand in front of or behind a cylinder when carrying out this type of work. If the stop or shaft breaks this could result in injury.
- Never disconnect a cylinder from the pump when the hydraulic system is under pressure.

Uneven loading (Fig. 5)

Make sure the ram supports the load at right angles to the surface. Avoid uneven loading, i.e. situations where the load is not carried through the centre of the lifting plate. Uneven loading puts unfavourable stresses on the ram and can lead to permanent damage. Avoid point loads - spread the load across the lifting plate whenever possible.

Overloading

Do not lift any load that exceeds the rated capacity of the ram. Overloading may damage the equipment and cause personal injury. A ram can support maximum load on the piston stop ring/glands. However, avoid loading a ram when it is fully extended as this causes unfavourable stresses. Therefore choose a ram with a slightly longer stroke than is necessary for the intended application.

Heat

Avoid exposing hydraulic equipment to temperatures higher than 60°C. Heat can destroy gaskets and hoses.

Accessories

The following pressure heads are available for all models:

- THH – Pressure head with unthreaded hole *
- THM – Pressure head with internal M thread *
- THU – Pressure head with internal UN thread *
- THR – Knurled solid pressure head

TS - Cylinder support plates

Support plates for CHFA cylinders are a simple and foremost cost effective way to protect the cylinder base against damage. Cylinder support plates are available for all CHFA cylinders.

*) For information about internal diameters and/or thread sizes, contact REHOBOT or your nearest REHOBOT dealer. Also see our website www.rehobot.se

Bleeding the hydraulic system

Air can collect in the hydraulic system when hoses or tools are connected and this can lead to problems in operation. To bleed the system run the tool or ram through 3-4 cycles (pumping to full extension then releasing) without any load. At the same time make sure that the tool or ram is kept lower than the pump so that air can travel back to the oil reservoir in the pump. Then bleed the pump oil reservoir. Top up the pump with oil if necessary.

Maintenance

Hydraulic equipment must be serviced and maintained regularly to keep it in good working condition. For safety reasons it is important that hydraulic products are serviced and maintained by experienced personnel. If in any doubt, contact your dealer for information about the nearest authorised service agent. Always use original REHOBOT spare parts. Lubricate moving parts as necessary with a high quality grease. Always use high quality hydraulic oil type ISO VG10 or equal.

Storage

When hydraulic equipment is not in use:

Clean the equipment, make sure the hydraulic system is not pressurized and store it somewhere clean and free from damp. Make sure the equipment is not subject to extremes of temperature.

Hoses

Do not let hoses become twisted or sharply bent. If hydraulic pressure is applied to a distorted hose it can cause an unfavourable rise in pressure that may damage the equipment.

If hoses are badly bent or twisted it may lead to internal rupture and excessive wear. Do not let sharp or heavy objects rest on the hose or run over it.

Never lift or carry hydraulic components by the hose or connections, or carry hand pumps by the lever unless it is fitted with a lever lock.

Aluminum cylinders

- Note! The REHOBOT range of CHFA aluminium cylinders are aimed to be used intermittent and in low-cycle applications such as normal maintenance and lifting operations. These aluminium cylinders are designed to provide a lifetime of at least 5.000 cycles and should therefore NOT be used in high-cycle operations like production lines etc. Use of these cylinders beyond their rated life can lead to sudden failure without warning and could cause property damage, injury, or death.

Recycling

Hydraulic oil that is drained when servicing the jack must be collected and handled according to applicable environmental laws and regulations.

The various parts can be recycled at the end of their service life. The unit consists of steel, hydraulic oil, rubber (seals), and plastic. Collect the hydraulic oil and dispose of it separately. The unit does not contain any pressurized components when released from load. For more information about recycling of this product, please contact the local authorities, your waste disposal service or your provider.

REHOBOT®

MADE IN SWEDEN

SWEDEN

Type AA
 Capacity BB kN
 Max oil pressure CC MPa
 Serial number DD

S	AA	Modell beteckning	AA	Modèle
	BB	Kapacitet	BB	Capacité
	CC	Max. arbetstryck	CC	Pression de service maxi
	DD	Serie nummer	DD	Numéro de série
N	AA	Modellbetegnelse	AA	Modelaanduiding
	BB	Kapasitet	BB	Vermogen
	CC	Maks. arbeidstrykk	CC	Max. werkdruk
	DD	Serienummer	DD	Serienummer
DK	AA	Modelbetegnelse	AA	Modello
	BB	Kapacitet	BB	Capacità
	CC	Max. driftstryk	CC	Pressione d'esercizio max
	DD	Serienummer	DD	Numero di serie
SF	AA	Tyypimerkintä	AA	Denominación del modleo
	BB	Nostokyky	BB	Capacidad
	CC	Suurin työpaine	CC	Máxima presión de servicio
	DD	Sarjanumero	DD	Número de serie
GB	AA	Model designation	AA	Modelo
	BB	Capacity	BB	Capacidade
	CC	Max. working pressure	CC	Pressão máxima de trabalho
	DD	Serial number	DD	Número de série
D	AA	Modellbezeichnung		
	BB	Kapazität		
	CC	Max. Betriebsdruck		
	DD	Seriennummer		

Fig.1 , Abb.1 , Kuva 1

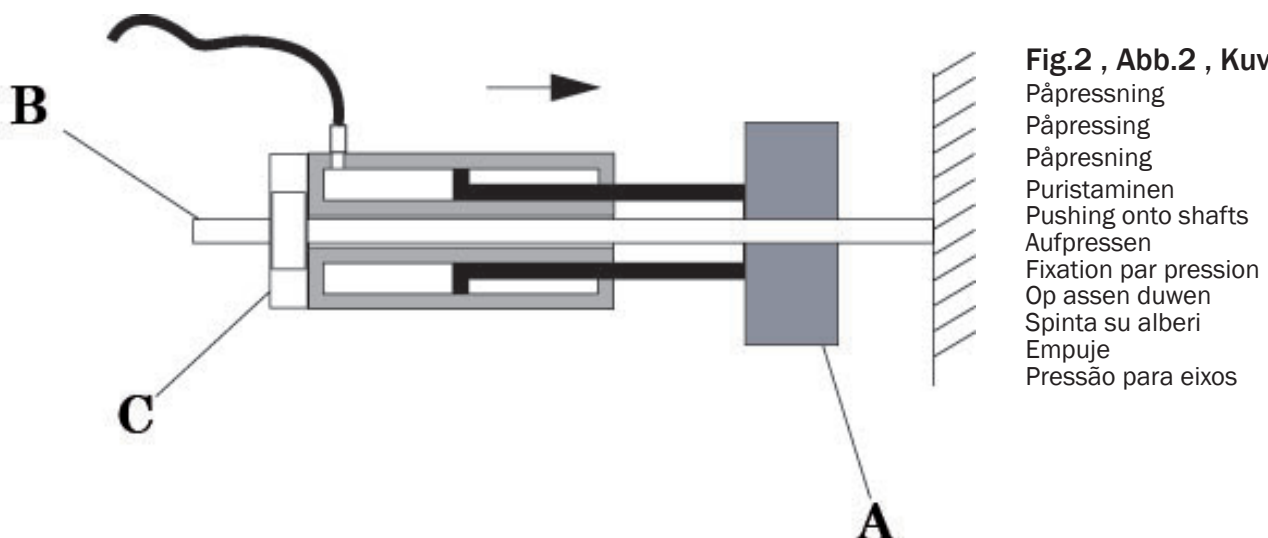


Fig.2 , Abb.2 , Kuva 2

Påpressning
 Pâpressing
 Pâpresning
 Puristaminen
 Pushing onto shafts
 Aufpressen
 Fixation par pression
 Op assen duwen
 Spinta su alberi
 Empuje
 Pressão para eixos

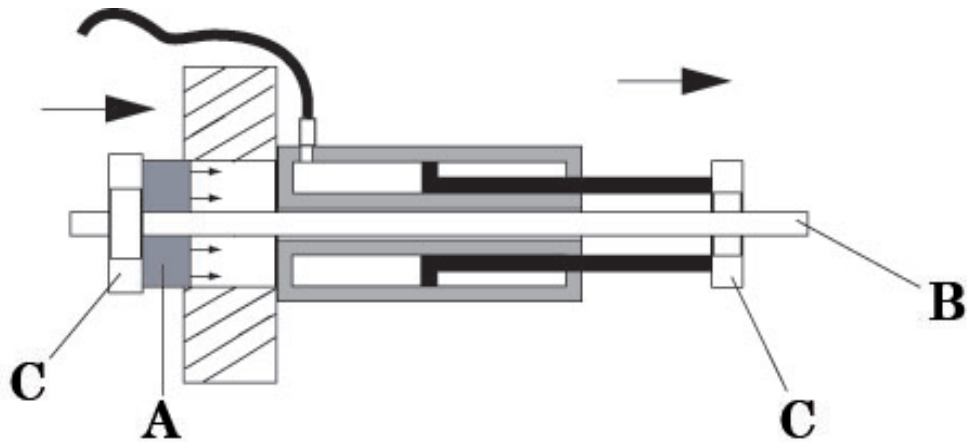


Fig.3 , Abb.3 , Kuva 3

Montering
 Montering
 Montering
 Asennus
 Fitting
 Montage
 Montag
 Montage
 Montaggio
 Montaje
 Montagem

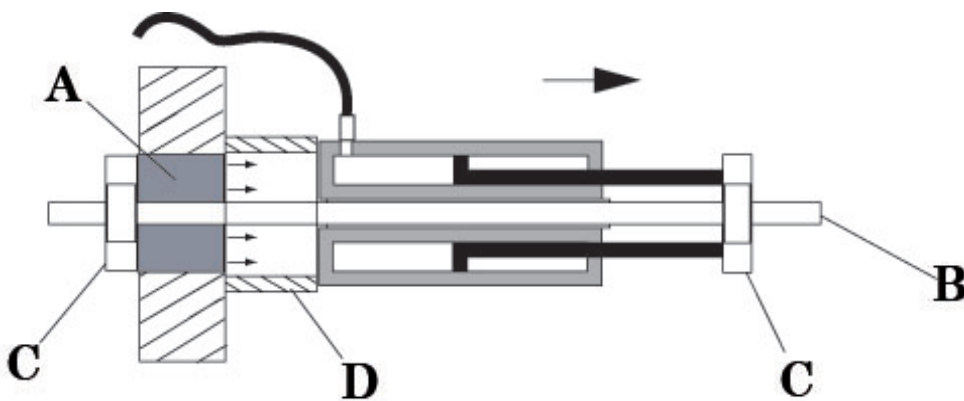


Fig.4 , Abb.4 , Kuva 4

Demontering
 Demontering
 Afontering
 Viro kuormitus
 Removal
 Démontage
 Demontage
 Smontaggio
 Desmontaje
 Desmontagem

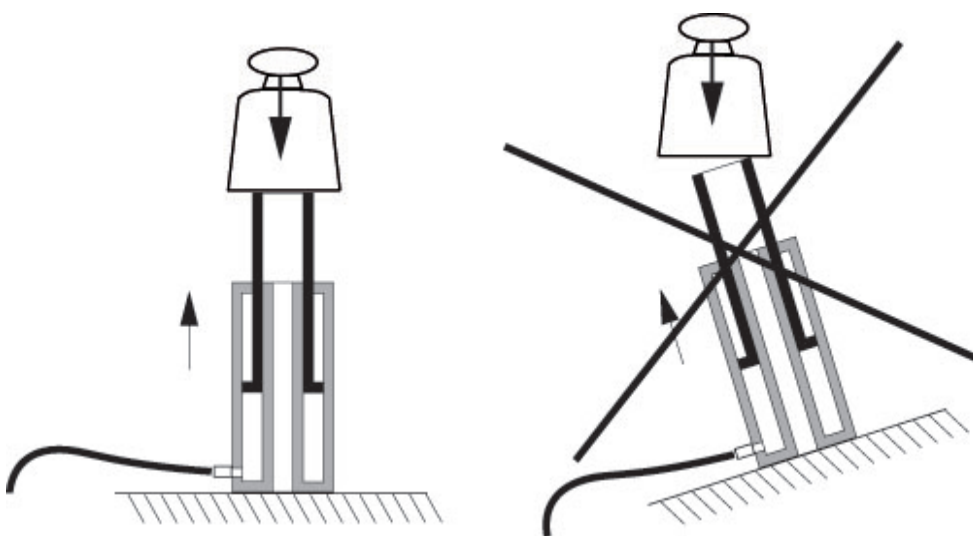


Fig.5 , Abb.5 , Kuva 5

Snedbelastning
 Ujevní belástning
 Skæv belástning
 Irrottaminen
 Uneven loading
 Schrägbelástung
 Charge non-uniforme
 Ongelijkmátige belástung
 Carichi disassati
 Carga desigual
 Carga desigual

SE Tabellen visar max arbetstryck för respektive hålcylindrar vid dragning med gångad stång i olika dimensioner.
 NO Tabellen viser maksimalt arbeidstrykk ved bruk av hullsylinder til trekking av gjengede stenger med forskjellige dimensjoner.
 DK Tabellen viser maksimalt driftstryk ved anvendelse af hullcylindre til trækning af gevindstænger med forskellige dimensioner.
 FI Taulukko osoittaa korkeimman työpaineen jokaiseen reikäsilinteriin kiiristettäessä eri kokoisia kierretankoja.
 GB The table shows maximum working pressure when using hollow cylinders for pulling threaded rods in various dimensions.
 DE Die Tabelle zeigt den Maximalen Betriebsdruck bei Verwendung von Hohlkolbenzylindern, um Gewindestangen mit verschiedenen Dimensionen zu ziehen.
 FR Le tableau indique la pression maximale lors de l'utilisation des verins à piston creux pour tirer les tiges filetéés dans les différents dimensions.
 NL De tabel toont de maximale werkdruk bij gebruik van holle cilinders om draadstangen met verschillende dimensies te trekken.
 IT La tabella mostra la massima pressione di esercizio quando si utilizzano i cilindri cavi per la trazione di aste filettate di varie dimensioni.
 ES La tabla muestra la presión máxima para cada cilindro con émbolo hueco al apretar la varilla roscada en varios tamaños.
 PT A tabela mostra a pressão de trabalho máxima quando são usados cilindros ocos para puxar varas roscadas em diversas dimensões.

Threaded rod Thread	Max Force		CH62 CHF62		CHFA132 CHFA136		CHFA182 CHFA184		CHFA262 CHFA266		CH30-50		CHFA372 CHFA376		CH50-40		CHFA504		CHFA673 CHFA676		CHFA1003 CHFA1006		
	Class	kN	ton	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi	bar	psi
M12	12.9	62	6.3	700	10150	352	5104	247	3582	170	2465	152	2204	121	1755	161	2335	158	2292	162	2349		
M16	12.9	115	11.7	700	10150	654	9485	457	6628	315	4569	246	3568	225	3263	244	3538	210	3045				
M20	10.9	153	15.6	700	10150	700	10150	609	8831	420	6090	375	5438	299	4336	244	3538	210	3045				
M24	10.9	220	22.4					700	10150	604	8758	539	7816	429	6221	351	5090	303	4394	233	3379	152	2204
M30	10.9	350	35.7							700	10150	800	11600	683	9904	559	8106	481	6975	371	5380	243	3524
M33	10.9	433	44.1									800	11600	700	10150	691	10020	596	8642	459	6656	300	4350
M36	10.9	510	52.0											700	10150	800	11600	700	10150	700	10150	353	5119
M48	8.8	628	64.0															700	10150	667	9674	435	6309
M52	8.8	750	76.5															700	10150	700	10150	520	7540
M64	8.8	1142	116.4																			700	10150