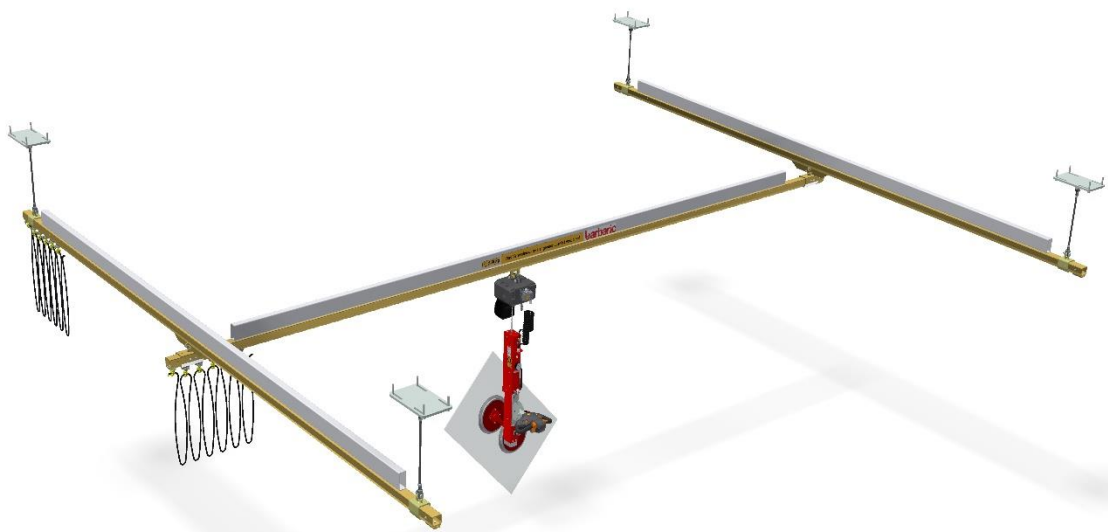


Assembly instruction Crane system (ceiling mounting for cavity)



1. Measure the position of the rail system:
Be sure that the rail system covers all the required working area and that no collision edges are present.
2. Assembly suspension:

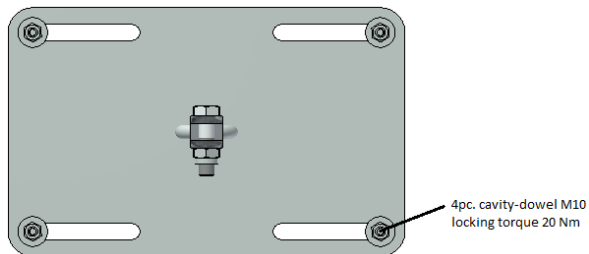


Fig. 1.1

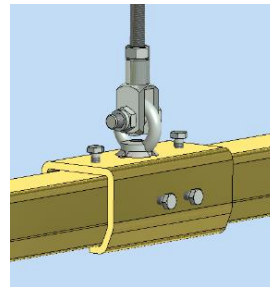


Fig. 1.2

The suspensions get fixed on the ceiling with 4 pc. cavity-dowels (Fig 1.1). The locking torque is 20 Nm. With the longitudinal slots you can place the cavity-dowel above the cavtys. The suspensions get secured with a hexagon nut. As shown on Fig. 1.2, the U-head is secured with a nut. The fastening screw, where the socket is mounted, is fixed with a safety nut.

3. Mounting of the crane runway rails in sockets:

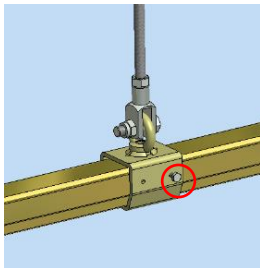


Fig. 2.1

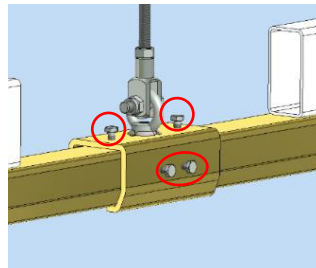


Fig. 2.2

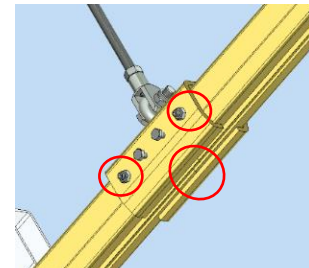


Fig. 2.3

After the mounting of the crane runway rails, the whole system has to be put in balance. After that, fix the adjusting screws at the socket (Pic. 2.1) and at the connection sleeves (Pic. 2.2 and 2.3). Take care of the connection sockets, that the transport trolley can run across the rail bond without jerk (Pic. 2.2 – no distance or offset above the rails). To prevent the rails from slipping out of the connecting sockets, they have to be secured with threaded bolt with pin (Pic. 2.3).

4. Fix the label:

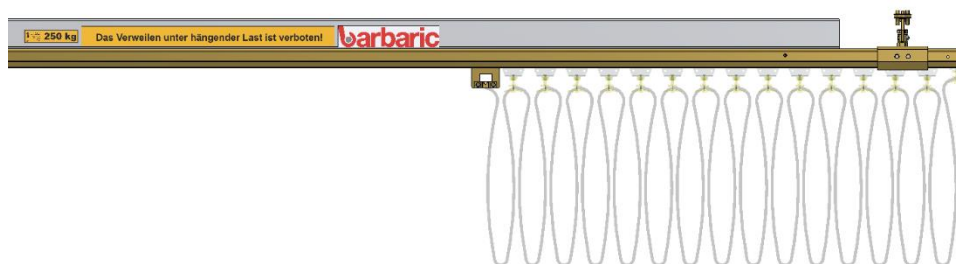


Fig. 3

Fix the labels which are included in the barbaric scope of delivery.

5. Mounting of the transfer table role device with bridge:

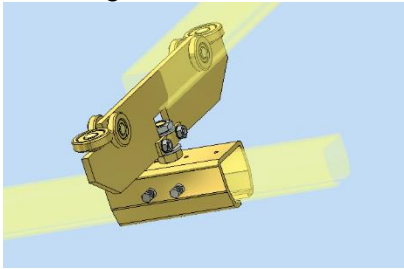


Fig. 4

Clamp the transfer table role device on the bridge (Pic. 4), adjust the track wide of the crane runway, and secure them against slipping. Care should be taken about the right overhang.

6. Mount the energy supply and secure them via safety screw:



Fig. 5.1

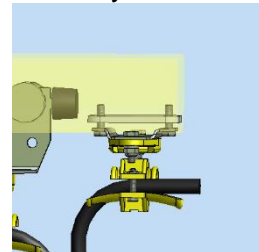


Fig. 5.2

Mount the energy supply (Pic. 5.1) and fix them via clamping plates at the end of the rail (Pic. 5.2).

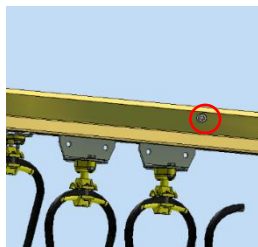


Fig. 5.3

Afterwards a safety screw has to be assembled in front of the energy supply (Pic. 5.3). This prevents the power supply from being damaged by the transport trolley.

7. Mount the transport trolley and the vacuum lifter on the bridge:

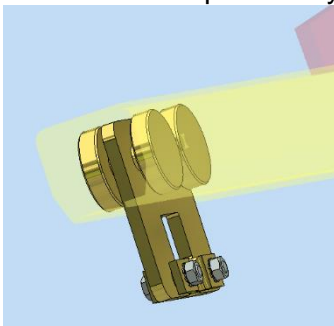


Fig. 6.1

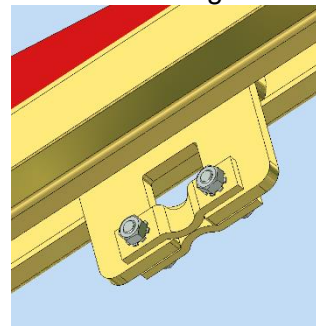


Fig. 6.2

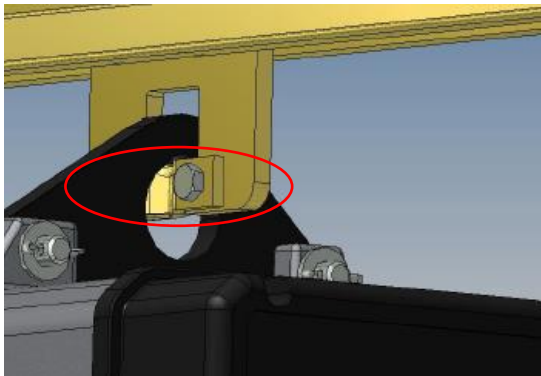


Fig. 6.3

Open the two screws on the transport trolley and hang up the chain hoist. Before attaching the chain hoist, make sure that the mounting eyes are mounted as shown in Fig. 6.3.

8. Mount the stopper of the rail, fix and secure it:

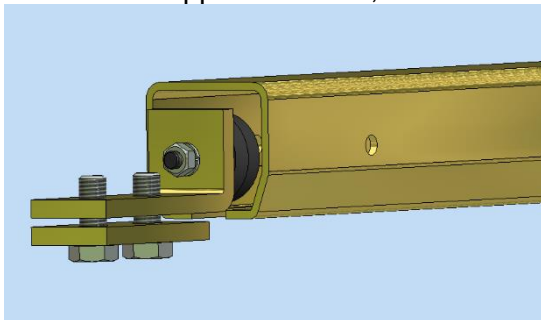


Fig. 7.1

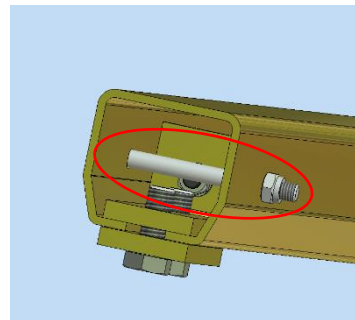


Fig 7.2

Assemble the stopper at the End of the rails (clamp) (Fig. 7.1) and afterwards secure the rail behind the stopper with a screw (Fig. 7.2). Limited the possible crane runway of the chain hoist, therefore a crash is not possible.

9. Connect vacuum lifter electrically and pneumatically:

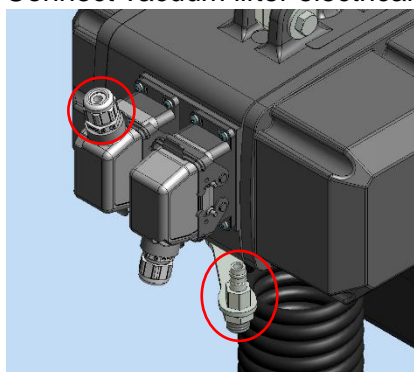


Fig. 8

Connect electrical according to circuit diagram (see documentation) and pneumatically by clutch on the power supply.

10. Connect Main lead by the electrician:

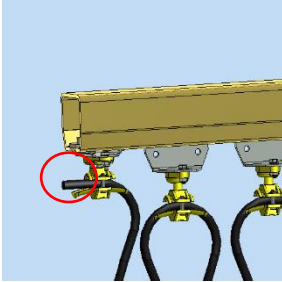


Fig. 9

The power supply can be mounted in such a way that the cable and the hose cannot be damaged when the boom is pivoted.

11. Fix the main switch unit on the column:

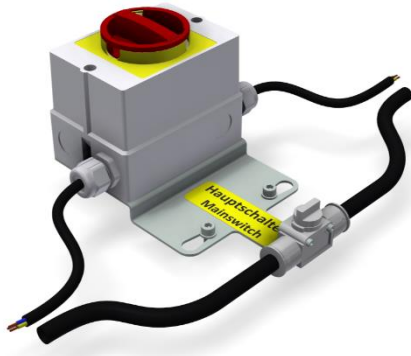



Fig. 10

The main switch unit is scope of delivery. This main switch unit enable the user to cut the energy – and compressed air of locally. Connect the main supply line by the electrician. Do not turn off the energy – and compressed air during lifting, risk of injury!

12. Start the performance check and keep the documentation in mind.

Technical data sheet from the producer:

5.6.18 Hohlkammerdübel HKH

Ankertyp	Merkmale & Nutzen
 <p>HKH (Galvanisch verzinkt)</p>	<ul style="list-style-type: none"> Vorgespannte Hohlkammerdecken Optische Setzkontrolle



Zulassungen / Prüfberichte

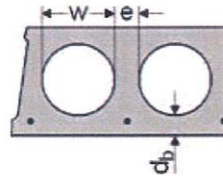
Beschreibung	Behörde / Prüfstelle	Nummer
Allgemeine bauaufsichtliche Zulassung für Einzelbefestigungen ³⁾	DIBt, Berlin	Z-21.1-1722
Brandschutzdaten in o. g. Zulassung	DIBt, Berlin	Z-21.1-1722
Brandschutzprüfbericht	IBMB, Braunschweig	UB 3606 / 8892
Prüfbericht (Brandschutz)	Warringtonfire	WF 166402
Sprinkler	VdS, Köln	G 4961028

³⁾ Alle in diesem Abschnitt angegebenen Daten laut DIBt-Zulassung Z-21.1-1722

Lastdaten (für Einzelbefestigungen)

Alle Daten in diesem Abschnitt basieren auf folgenden Grundlagen:

- Korrekte Montage (siehe Montageanweisung).
- Kein Einfluss von Achs- und Randabständen.
- Hohlkammerdecken mit $b_H \leq 4,2 \cdot b_{st}$
- Beton $f_{cc} \geq 50 \text{ N/mm}^2$.
- Lastdaten für jede Lastrichtung.



Zulässige Lasten (Einzelbefestigung)

Ankergröße		M6	M8	M10	M6	M8	M10	M6	M8	M10	
Spiegeldicke d_s	[mm]	≥ 25			≥ 30			≥ 40			
Zug N_{zul}	[kN]	0,7	0,7	0,9	0,9	0,9	1,2	2,0	2,0	3,0	
Zulässige Last für ein Dübelpaar mit Achsabstand $s \geq 100 \text{ mm}$ und $s \leq 200 \text{ mm}$											
Zug N_{zul}	Achsabstand $s \geq 100 \text{ mm}$	[kN]	0,9	0,9	1,2	1,2	1,2	1,6	2,5	2,5	4,0
	Achsabstand $s \geq 200 \text{ mm}$	[kN]	1,1	1,1	1,5	1,5	1,5	2,0	3,3	3,3	5,0
Zulässige Last für eine Vierergruppe mit Achsabstand $s \geq 100 \text{ mm}$ und $s \leq 200 \text{ mm}$											
Zug N_{zul}	Achsabstand $s \geq 100/100 \text{ mm}$	[kN]	1,2	1,2	1,6	1,6	1,6	2,1	3,5	3,5	5,3
	Achsabstand $s \geq 100/200 \text{ mm}$	[kN]	1,5	1,5	2,0	2,0	2,0	2,6	4,4	4,4	6,6
	Achsabstand $s \geq 200/200 \text{ mm}$	[kN]	1,9	1,9	2,5	2,5	2,5	3,3	5,5	5,5	8,3

Die angegebenen **Lastwerte** gelten für:

- Zugbelastung
- Querbelastung
- alle Lastrichtungen

Alle Daten gelten für:

- Hohlkammerdecken, Klassifizierung > C 45/55.
- Hohlkammerdecken mit $b_H \leq 4,2 \cdot b_{st}$

Montagedetails HKH

Ankergrösse			M6	M8	M10
Befestigungshöhe	t_{fix}	[mm]	≤ 10	≤ 10	≤ 10
Durchmesser Durchgangsloch	d_i	[mm]	12	14	16
Verankerungstiefe	h_b	[mm]	55 bis 65	55 bis 65	55 bis 65
Anzugsdrehmoment	T_{inst}	[Nm]	5	10	20

Bauteildicke, Achs- und Randabstände

Ankergrösse			M6	M8	M10
Randabstand ^{a)}	$c \geq$	[mm]		150	
Minimaler Randabstand ^{a)}	$c_{min} >$	[mm]		100	
Achsabstand zwischen den äusseren Dübeln der benachbarten Befestigungsstelle	$a \geq$	[mm]		300	

^{a)} Für Randabstände < 150 mm muss die zulässige Last reduziert werden um den Faktor $N = 0,75 \cdot N_{u,d}$

