

HRP quick start guide



- Installation**
- › Check suction line size
 - › Align HRP3232 in a vertical and HRP5040 to HRP10080 in a horizontal position
 - › Do not use flange bolts to align or “stretch” pipe, maintain a stress-free installation.
 - › Cable connection with loop (see photos)

- Safety devices**
- › Always install a current overload protections.
 - › PTC resistor at connections # 1 and 2 must be connected with INT69.
 - › A pressure differential switch is recommended and should be set with a delay of 30s.

- Venting**
- › The downleg shut off valve must be open during stand-still to allow for proper venting of the pump, or alternatively a vent line is required.
 - › For each individual installed horizontal pump in CO₂-systems, and when the downleg is closed during stand-still (stand.by), a vent line is required in front of the discharge check (see separate WITT instructions).

- Minimum flow**
- › In CO₂-systems a permanent open minimum flow line is required when it is possible to operate against closed or throttled evaporators (separate instructions available).
 - › For all other refrigerants a differential set overflow valve has proven good practice.

- Start-up**
- › Provide sufficient time delay for venting/cool down prior to start up, so the pump can reach evaporation temperature.
 - › Check proper direction of rotation.
 - › Check pump differential set overflow valve or minimum flow line.

- Operation**
- › Clean the conical filter within 2 weeks after start-up, and then in planned intervals.
 - › When the pump is stopped by a safety device re-start is only permitted after investigation of the cause of stoppage.

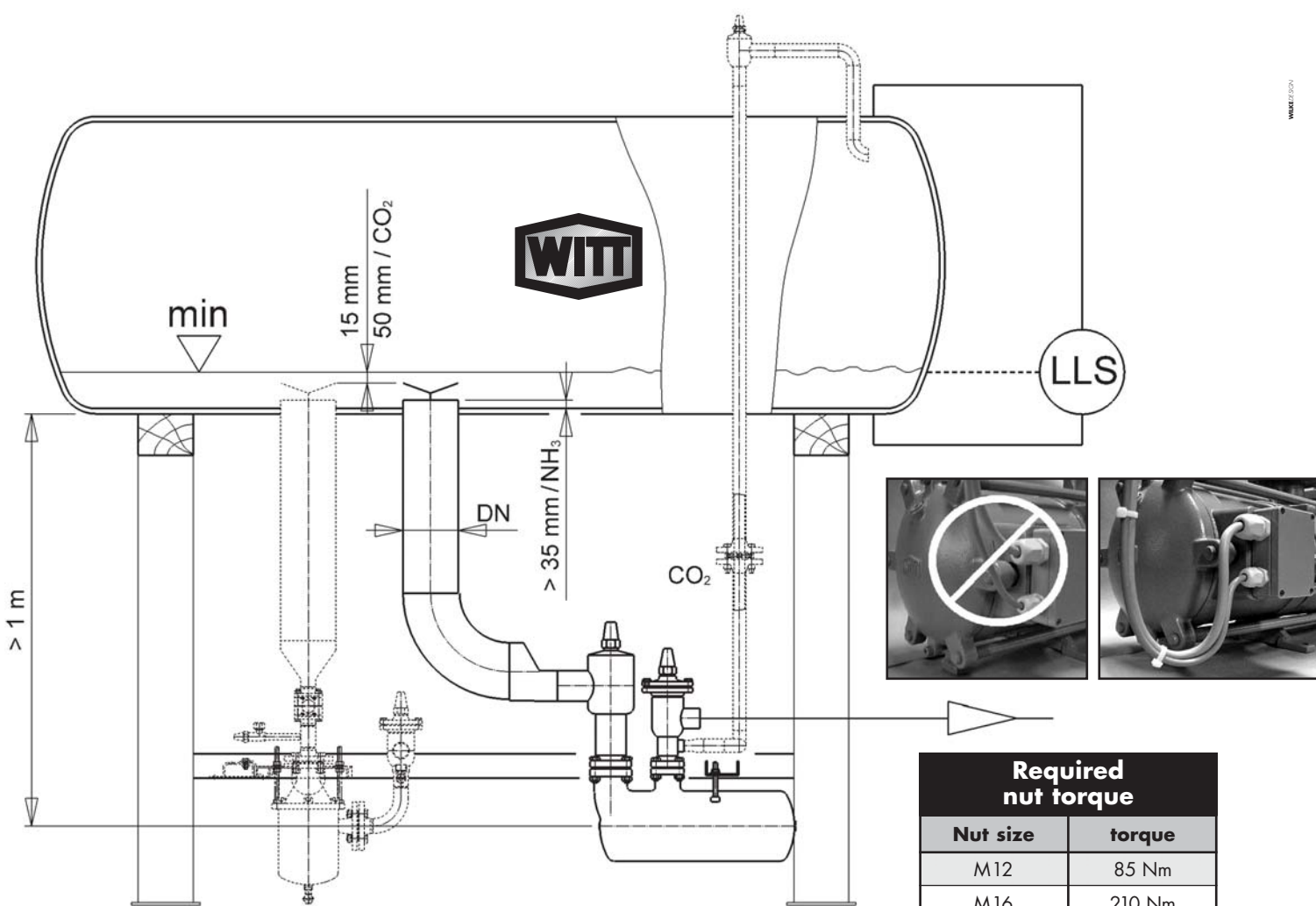
- Control system**
- › The control system should include a low level refrigerant warning and pump cut-out. For minimum allowed level see drawing above.
 - › Pump starts-stops should be limited as much as possible. Minimum running time is 5 min. After the pump has stopped sufficient time for venting must be provided (20 min in CO₂-systems without vent line, 5 min for all other refrigerants and CO₂-systems with vent line).

- Frequency converters**
- › When using frequency converters the frequency should never be less than 40 Hz to ensure the minimum required refrigerant flow is maintained.
 - › The start/stop ramp should be set steep enough, so the check valve on the discharge side can open fast enough (from experience the ramp should be set at 1 s).
 - › The orifice in CO₂-systems has to be chosen for the max. possible frequency.



The quick start guide does not replace the HRP instruction manual!

Always check the full instructions before installation and operation!



Required suction line Ø		
HRP	DN 50 Hz	inch 60 Hz
3232	80	3
5040	100	5
5050	125	5
8050	150	8
10080	250	10

Required minimum flow				
HRP	50 Hz		60 Hz	
	m ³ /h	gal/min	m ³ /h	gal/min
3232	0,6	2,6	0,7	3,1
5040	1,2	5,3	1,5	6,6
5050	3,0	13,2	3,5	15,4
8050	5,0	22	5,5	24
10080	8,0	35	9,6	42

Orifice for CO ₂		
HRP	Frequency	Part no.
3232	50 Hz	4419.020104
	60 Hz	4419.020114
5050	50 Hz	4419.020103
	60 Hz	4419.020113
8050	50 Hz	4419.020101
	60 Hz	4419.020111
10080	50 Hz	4419.020102
	60 Hz	4419.020112

Setting of the differential operated overflow valve

(required when the necessary minimum flow into the system cannot be maintained at all times)

Set point Δp	50 Hz, 4 x 400 V								60 Hz, 3 x 460 V							
	t ₀		NH ₃		R404a/R507		R134a		NH ₃		R404a/R507		R134a			
	°C	°F	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]		
HRP3232	0	32	1,6	22	2,8	41	3,1	22	2,5	36	4,5	65	5,0	73		
	-10	14	1,6	23	2,9	42	3,2	47	2,5	37	4,6	68	5,2	76		
	-40	-40	1,7	24	3,1	45	3,4	50	2,7	39	5,0	73	5,5	80		
HRP5040	0	32	1,9	27	3,4	49	3,8	55	2,8	40	5,1	73	5,7	83		
	-10	14	1,9	28	3,4	51	3,9	56	2,8	42	5,2	76	5,8	85		
	-40	-40	2,0	29	3,7	54	4,1	60	3,0	44	5,6	82	6,2	90		
HRP5050	0	32	2,8	41	5,1	73	5,7	82	3,7	54	6,7	98	7,6	110		
HRP8050	-10	14	2,8	42	5,2	76	5,8	85	3,8	56	7,0	102	7,8	114		
HRP10080	-40	-40	3,0	44	5,6	82	6,2	90	4,0	59	7,5	109	8,3	120		

Settings for different/lower evaporating temperatures, please have a look in the WITT manual.

TH. WITT Kältemaschinenfabrik GmbH

Lukasstraße 32 • 52070 Aachen, Germany • info@th-witt.com • Tel +49 (0)241 182 08-0 • Fax +49 (0)241 182 08-490

th-witt.com