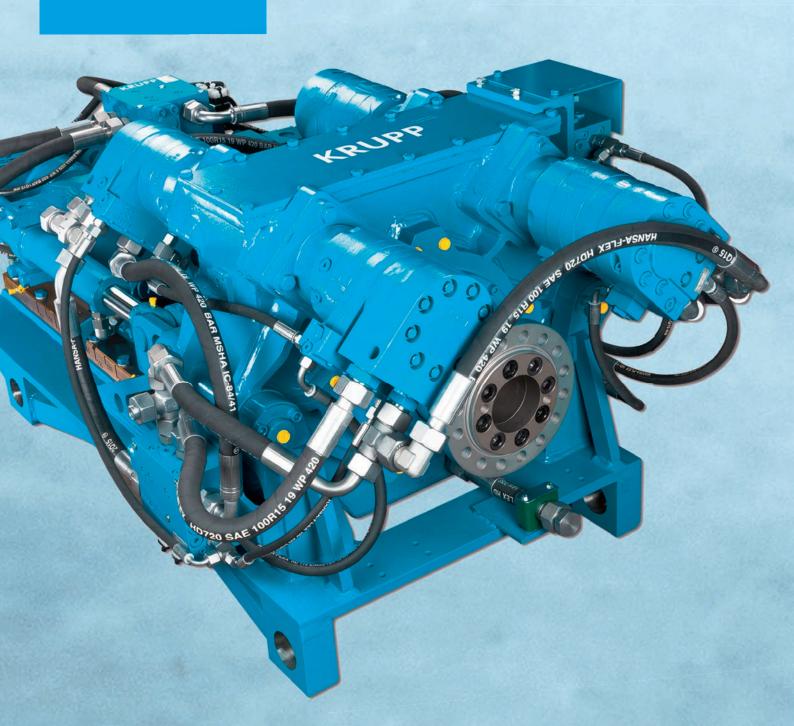
Materials Services Infrastructure

# KRUPP Double Head HR55-HR40.



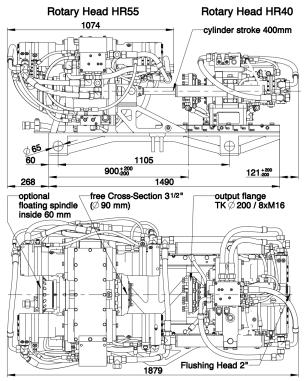


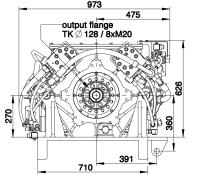
# KRUPP Double Head System HR55-HR40

Compact design – the ideal double rotary system assembled to one sledge plate for larger drill rigs.

- Double head drilling unit HR55-HR40 designed for geothermal and overburden drilling up to a depth of 200 m.
- Very compact design with minimum dimensions but maximum torque and both rotary heads are mounted to one single sledge plate.
- Thread-caring assembly and disassembly of the drilling rods by a new floating spindle integrated in the HR 55 rotary head, with a relative adjustment of 60 mm (+/-30 mm) as Option.
- With cylinders arranged between the rotary heads a relative adjustment between outer casing and inner rod of 400 mm (+/-200 mm) is standard, up to 1000 mm (+/-500 mm) is possible as Option.
- Counter-rotating of inner rod and outer casing allow precise drillings and consequently guarantee the verticality of the earth probes for geothermal drilling.
- Casing diameter up to 300 mm (12 inch).
- Optional: electric or hydraulic changeover of the rotary drive speed.
- Options: top flushing head, discharge ejection bell, integrated RPM sensors, floating spindle integrated in HR55, central lubrication system, longer relative adjustment between the rotary heads.

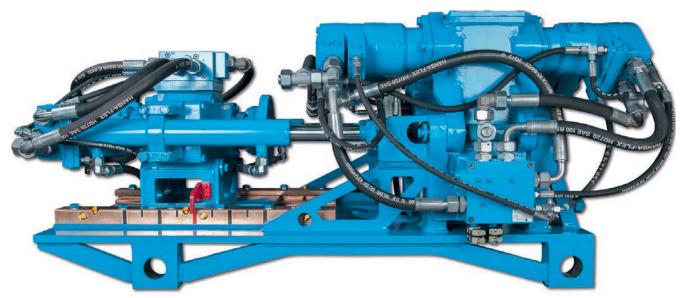
#### Main Dimensions





Weight Rotary Heads approx. 1080 kg Sledge approx. 320 kg

Retraction Force HR40 max. 150 kN HR55 max. 200 kN



## Rotary Drives HR55 (for outside casings)

Motor-	Version 2x HP48	0 ccm	+ 2x H	P677 c	cm												
Pressure	e at rotary drive		200	) <sub>bar</sub>			240	) <sub>bar</sub>		280 bar							
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
te	170 Torque (Nm)	7,100	10,900	14,800	23,600	8,600	13,200	17,900	28,200	10,600	16,200	21,900	34,200	12,700	19,300	26,000	40,300
	Speed (rpm)	48	35	26	19	48	35	26	19	48	35	26	19	48	35	26	19
flow rate	260 Torque (Nm)	5,100	8,300	11,700	20,600	6,700	10,500	14,800	25,200	8,700	13,600	18,800	31,300	10,700	16,600	22,900	37,400
n)	Speed (rpm)	75	51	41	27	75	51	41	27	75	51	41	27	75	51	41	27
Oil flo	340 Torque (Nm)	4,100	6,800	10,100	19,000	5,600	9,100	13,100	23,600	7,600	12,100	17,200	29,700	9,600	15,200	21,200	35,800
(lpm)	Speed (rpm)	97	66	53	36	97	66	53	36	97	66	53	36	97	66	53	36

<sup>1</sup>st gear (parallel mode), 2nd gear (parallel + 2-speed mode), 3rd gear (serial mode), 4th gear (serial + 2-speed mode)

Motor-	Version 4x HP67	7 ccm	(stand	ard)													
Pressure	e at rotary drive	170 bar				200 bar					240	) <sub>bar</sub>		280 bar			
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
te	170 Torque (Nm)	8,700	13,300	18,000	28,200	10,400	16,000	21,600	33,500	12,800	19,500	26,400	40,600	15,200	23,100	31,100	47,800
	Speed (rpm)	41	30	23	16	41	30	23	16	41	30	23	16	41	30	23	16
flow rate	260 Torque (Nm)	6,800	10,900	15,300	25,400	8,600	13,500	18,800	30,700	11,000	17,100	23,600	37,900	13,400	20,700	28,300	45,000
n)	Speed (rpm)	64	43	35	23	64	43	35	23	64	43	35	23	64	43	35	23
Oil flo	340 Torque (Nm)	5,800	9,500	13,800	23,900	7,600	12,200	17,300	29,200	10,000	15,800	22,100	36,400	12,300	19,300	26,800	43,500
(Ipm)	Speed (rpm)	83	57	45	31	83	57	45	31	83	57	45	31	83	57	45	31

<sup>1</sup>st gear (parallel mode), 2nd gear (parallel + 2-speed mode), 3rd gear (serial mode), 4th gear (serial + 2-speed mode)

Motor-Version 2x HP677 ccm + 2x HP940 ccm																
Pressure	Pressure at rotary drive 170 bar 200 bar 230 bar															
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>			
Te	170 Torque (Nm) Speed (rpm)	9,900 35	15,200 25	20,800 19	33,000 13	12,100 35	18,400 25	25,000 19	39,300 13	14,200 35	21,600 25	29,300 19	45,700 13			
flow rate m)	260 Torque (Nm) Speed (rpm)	7,200 53	11,500 36	16,400 29	28,800 20	9,300 53	14,700 36	20,700 29	35,200 20	11,400 53	17,900 36	24,900 29	41,600 20			
Oil flo (lpm)	340 Torque (Nm) Speed (rpm)	5,700 70	9,500 47	14,100 38	26,600 26	7,800 70	12,700 47	18,300 38	33,000 26	9,900 70	15,900 47	22,600 38	39,300 26			

 $<sup>1^{</sup>st} \ gear \ (parallel \ mode), \ 2^{nd} \ gear \ (parallel \ + \ 2-speed \ mode), \ 3^{rd} \ gear \ (serial \ mode), \ 4^{th} \ gear \ (serial \ + \ 2-speed \ mode)$ 

Motor-	Version 4x HP94	0 ccm													
Pressure at rotary drive 170 bar							200	) bar			230	) <sub>bar</sub>			
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>		
te .	170 Torque (Nm) Speed (rpm)	12,000 30	18,400 22	25,100 16	39,100 12	14,500 30	22,100 22	30,000 16	46,500 12	17,000 30	25,900 22	35,000 16	53,900 12		
flow rate m)	260 Torque (Nm) Speed (rpm)	9,500 46	15,100 31	21,200 25	35,300 17	12,000 46	18,800 31	26,200 25	42,700 17	14,400 46	22,500 31	31,100 25	50,100 17		
Oil flo (lpm)	340 Torque (Nm) Speed (rpm)	8,100 60	13,200 41	19,100 33	33,200 22	10,600 60	17,000 41	24,100 33	40,600 22	13,000 60	20,700 41	29,000 33	48,000 22		

<sup>1</sup>st gear (parallel mode), 2nd gear (parallel + 2-speed mode), 3rd gear (serial mode), 4th gear (serial + 2-speed mode)

#### Other motor versions are available

### Options

Top discharge preventer and ejection bell	
Floating spindle of 60mm integrated in HR55	
Drill rods, casings, bits, augers	
Drill rods, casings, bits, augers	

## Rotary Drives HR40 (for inner rods)

Motor-	Version 2x HP48	0 ccm															
Pressure	140 bar				200 bar				240	) <sub>bar</sub>		280 bar					
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
te .	90 Torque (Nm)	1,300	2,100	3,100	4,700	2,100	3,300	4,600	7,000	2,500	3,900	5,400	8,300	3,000	4,600	6,400	9,700
	Speed (rpm)	121	80	60	40	121	80	60	40	121	80	60	40	121	80	60	40
flow rate	150 Torque (Nm)	900	1,800	2,800	4,400	1,700	2,900	4,400	6,700	2,100	3,600	5,200	8,000	2,600	4,300	6,200	9,400
n)	Speed (rpm)	201	134	101	67	201	134	101	67	201	134	101	67	201	134	101	67
Oil flo	170 Torque (Nm) Speed (rpm)	800	1,600	2,700	4,300	1,500	2,800	4,300	6,600	1,900	3,400	5,100	7,900	2,400	4,100	6,100	9,300
(lpm)		228	152	114	76	228	152	114	76	228	152	114	76	228	152	114	76

<sup>1</sup>st gear (parallel mode), 2nd gear (parallel + 2-speed mode), 3rd gear (serial mode), 4th gear (serial + 2-speed mode)

Motor-	Version 2x HP67	7 ccm	(stand	ard)													
Pressure	e at rotary drive	140 bar				200 bar					240	) <sub>bar</sub>		280 bar			
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>
ē.	90 Torque (Nm)	1,900	3,000	4,300	6,600	2,900	4,700	6,500	9,900	3,500	5,500	7,700	11,600	4,200	6,500	9,000	13,600
	Speed (rpm)	86	57	43	29	86	57	43	29	86	57	43	29	86	57	43	29
flow rate	150 Torque (Nm)	1,300	2,500	4,000	6,200	2,400	4,100	6,200	9,500	3,000	5,000	7,400	11,300	3,600	6,000	8,700	13,300
n)	Speed (rpm)	143	95	71	48	143	95	71	48	143	95	71	48	143	95	71	48
Oil flo	170 Torque (Nm)	1,100	2,300	3,900	6,100	2,200	3,900	6,000	9,300	2,700	4,800	7,200	11,100	3,400	5,800	8,500	13,100
(lpm)	Speed (rpm)	162	108	81	54	162	108	81	54	162	108	81	54	162	108	81	54

 $<sup>1^{</sup>st} \ gear \ (parallel \ mode), \ 2^{nd} \ gear \ (parallel \ + \ 2-speed \ mode), \ 3^{rd} \ gear \ (serial \ mode), \ 4^{th} \ gear \ (serial \ + \ 2-speed \ mode)$ 

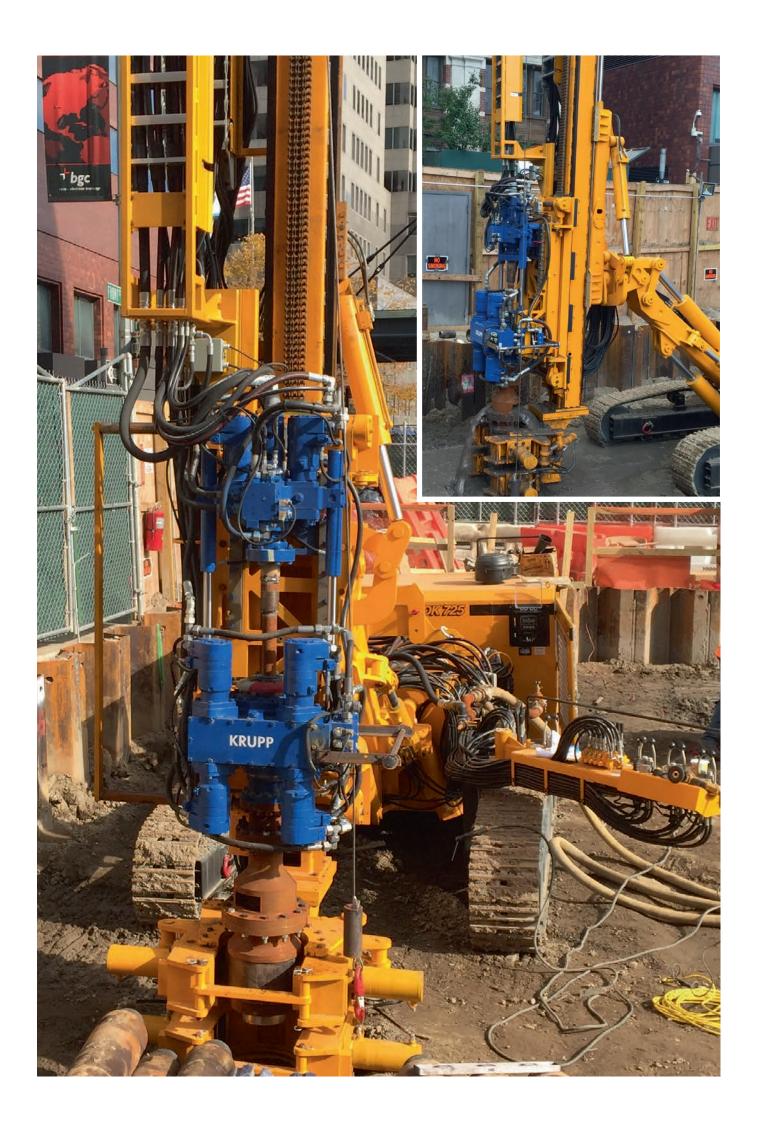
Motor-	Version 2x HP94	0 ccm													
Pressure	Pressure at rotary drive 170 bar 200 bar 230 bar														
Gear		4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	4 <sup>th</sup>	3 <sup>rd</sup>	2 <sup>nd</sup>	1 <sup>st</sup>		
te .	90 Torque (Nm) Speed (rpm)	3,300 62	5,200 41	7,400 31	11,300 21	4,100 62	6,500 41	9,000 31	13,700 21	4,700 62	7,300 41	10,200 31	15,500 21		
Oil flow rate (lpm)	150 Torque (Nm) Speed (rpm)	2,500 103	4,500 68	7,000 51	10,800 34	3,300 103	5,800 68	8,600 51	13,200 34	3,900 103	6,600 68	9,800 51	15,000 34		
Oilfl (lpm	170 Torque (Nm) Speed (rpm)	2,200 116	4,200 78	6,800 58	10,500 39	3,000 116	5,500 78	8,400 58	12,900 39	3,600 116	6,300 78	9,500 58	14,700 39		

 $<sup>1^{</sup>st} \ gear \ (parallel \ mode), \ 2^{nd} \ gear \ (parallel \ + \ 2-speed \ mode), \ 3^{rd} \ gear \ (serial \ mode), \ 4^{th} \ gear \ (serial \ + \ 2-speed \ mode)$ 

#### Other motor versions are available

### Options

2" top flushing head for HR40 rotary head
Balancing rod between the rotary heads
Flange adaptors for balancing rod



## Materials Services

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