

RAM HiT

Data Sheets



RAM HiT

Spindle GearboxMotor

Built-in Spindle Cartridge

One step forward: today's choice for tomorrow's machine design

Combining the highest power density and the lowest noise and vibration levels with the most efficient cooling, RAM-HiT is by design the perfect inline spindle gearbox solution. The favorite solution for productive milling spindle dedicated to hard materials.

- > Hollow shaft for easy integration of draw bar and through coolant
- > Dry sump lubrication
- > Water-cooled for minimum heat expansion
- > 100% compliant with machine-tools quality manufacturing and testing standards

- > 6 sizes
- > Input speed up to 12 000 RPM
- > Motor power up to 120 kW
- > Max output torque: 10 000 Nm



PERFORMANCES

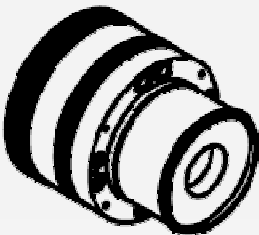
		Size	190	220	250	280	350	350+
i1	High speed ratio	-	1,00	1,00	1,00	1,00	1,00	1,00
i2	Low speed ratio	-	5.00	5.00	5.00	5.00	5.00	5.00
T2N	Nominal output torque (S1-100%)	Nm	800	1300	2000	3000	7000	10000
T2B	Maximum output torque (S6-40%)	Nm	1100	1800	2750	4400	10100	14400
n1n	Nominal input speed	rpm	1500	1500	1500	1500	550	550
n1B	Maximum input speed	rpm	12000	9000	8000	7000	6000	4000
OD	External diameter	mm	190	220	250	280	350	350
ID	Hollow through shaft diameter	mm	28	33	38	44	60	60
Input interfaces			45x21x2-6H	50x24x2-6H	55x26x2-6H	60x28x2-6H	80x38x2-6H	80x38x2-6H
Output interfaces			50x24x2-6H	60x28x2-6H	65x31x2-6H	75x36x2-6H	90x44x2-6H	90x44x2-6H
h	Efficiency	%	97	97	97	97	97	97
J1	Inertia @ input (high speed ratio)	kg.mm²	1300	3000	5600	11300	33400	33400
J2	Inertia @ input (low speed ratio)	kg.mm²	1100	2500	4300	8600	25600	25600
J	Backlash		15 arcmin					
Mounting position			All mounting positions possible, including swivelling mode (-150/+150°)					
Speed changer			Pneumatic or hydraulic actuator – 2 positions Pressure supply for gear change: 80 to 100 bar Signal of gear changed: 80 to 100 bar					
Lubrication			Dry sump lubrication with synthetic PAO oil 10 to 32 cSt @ 40°C					
Cooling			Oil or water					



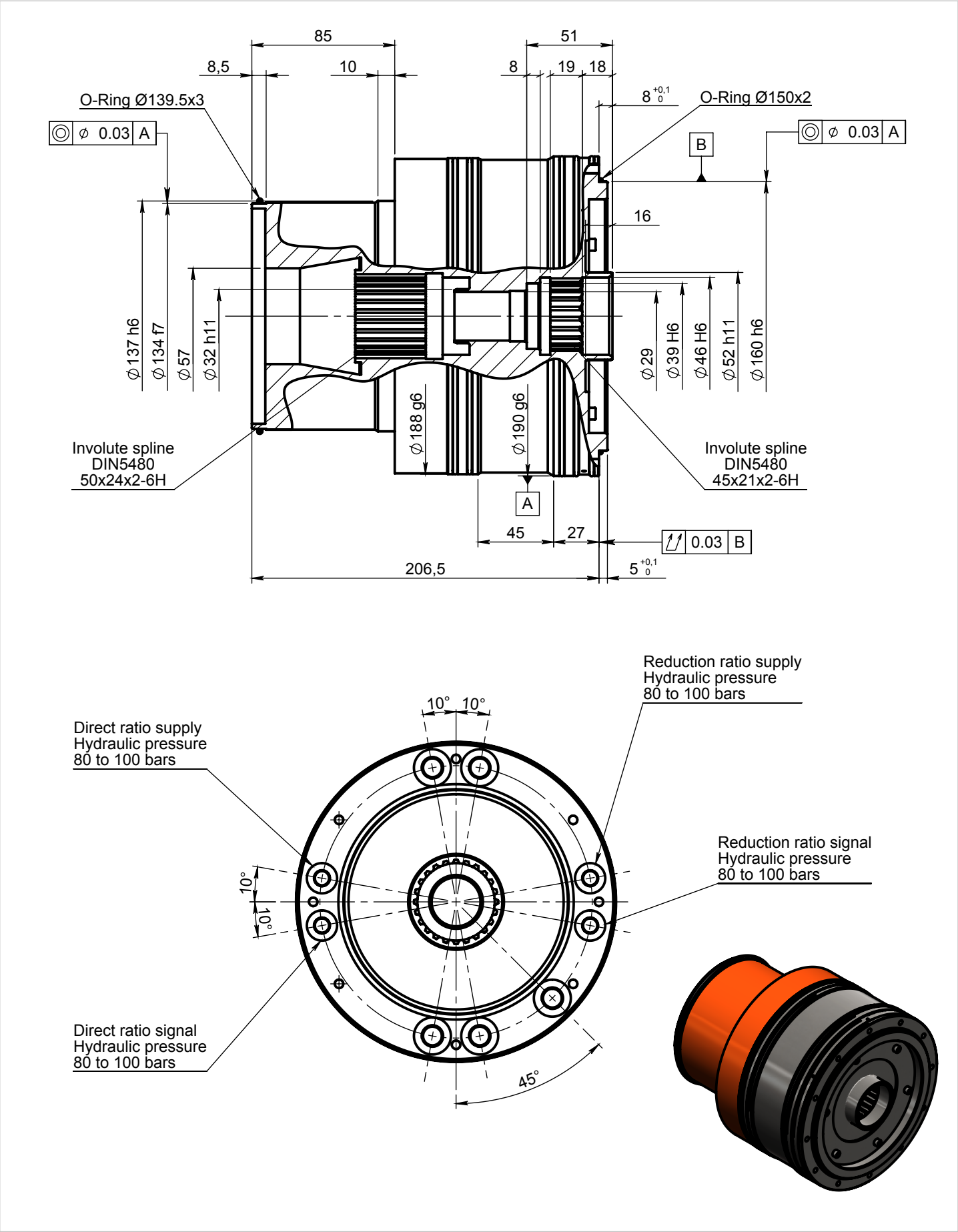
CODIFICATION

DESIGNATION: RAM220.HIT.105V.A

Options			
RAM226	Size	190	800 Nm
		220	1300 Nm
		250	2000 Nm
		280	3000 Nm
		350	7000 Nm
		350+	10000 Nm
H	Input shaft	H	DIN splined bore w/o bearing w/o seal
I	Housing	I	Without cooling jacket
T	Output shaft	T	DIN splined shaft w/o bearing
105	Reduction ratio	105	Ratio 1/1 and 1/5
V	Speed changer	V	Standard hydraulic speed changer – 2 positions
A	Mounting	A	All positions
		U	Vertical up
		D	Vertical down
		S	Swivelling
		Z	Tilting



OUTLINE DIMENSIONS



TECHNICAL FEATURES

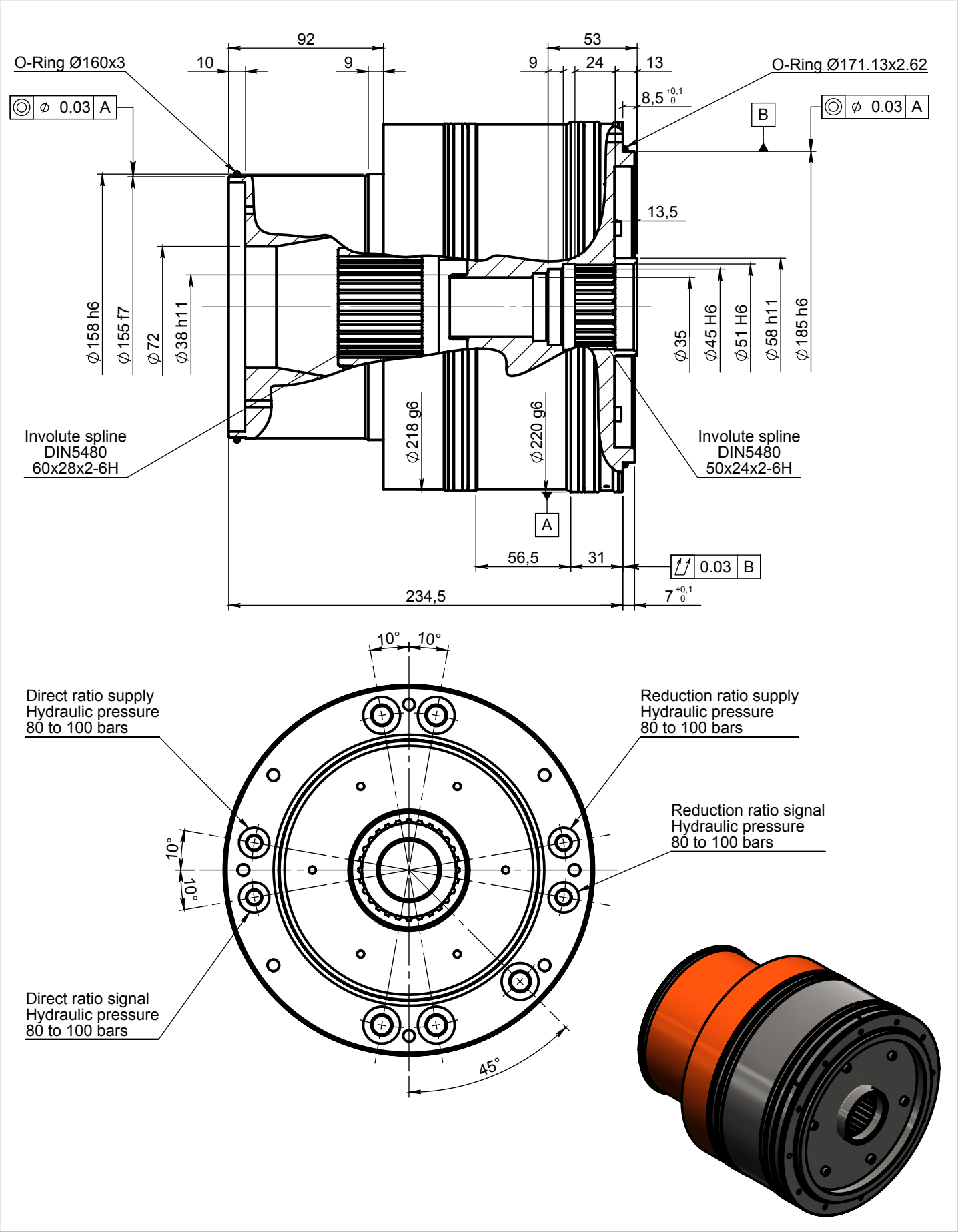
PERFORMANCES

Unit codification		RAM190HiT
i1	High speed ratio	1,00
i2	Low speed ratio	5,00
T2B6	Maximum output torque (S6-40%)	Nm1100
T2N1	Nominal output torque (S1-100%)	Nm800
n1B	Maximum input speed	RPM12000
n1N	Nominal input speed	RPM1500
OD	External diameter	mm190
ID	Internal diameter	mm28
li	Input interfaces	mm45x21x2-6H
lo	Output interfaces	mm50x24x2-6H
jt	Backlash	arcmin15
J1h	Inertia @ input (high speed ratio)	Kg.mm ² 1300
J1l	Inertia @ input (low speed ratio)	Kg.mm ² 1100
η	Efficiency at rated input speed	%97
Of	Oil flow rate (input)	L/min2,5 (2 - 6 bars)

ADDITIONAL FEATURES

- Paint RAL 2002
- All mounting positions possible, including swivelling mode (-150/+150°)
- Speed changer:
Pneumatic or hydraulic actuator – 2 positions
Pressure supply for gear change: 80 to 100 bar
Signal of gear changed: 80 to 100 bar
- Dry sump lubrication with synthetic PAO oil 10 to 32 cSt @ 40°C
- Cooling: oil or water

OUTLINE DIMENSIONS



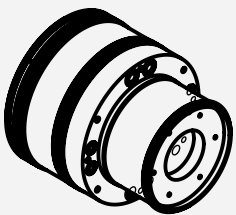
TECHNICAL FEATURES

PERFORMANCES

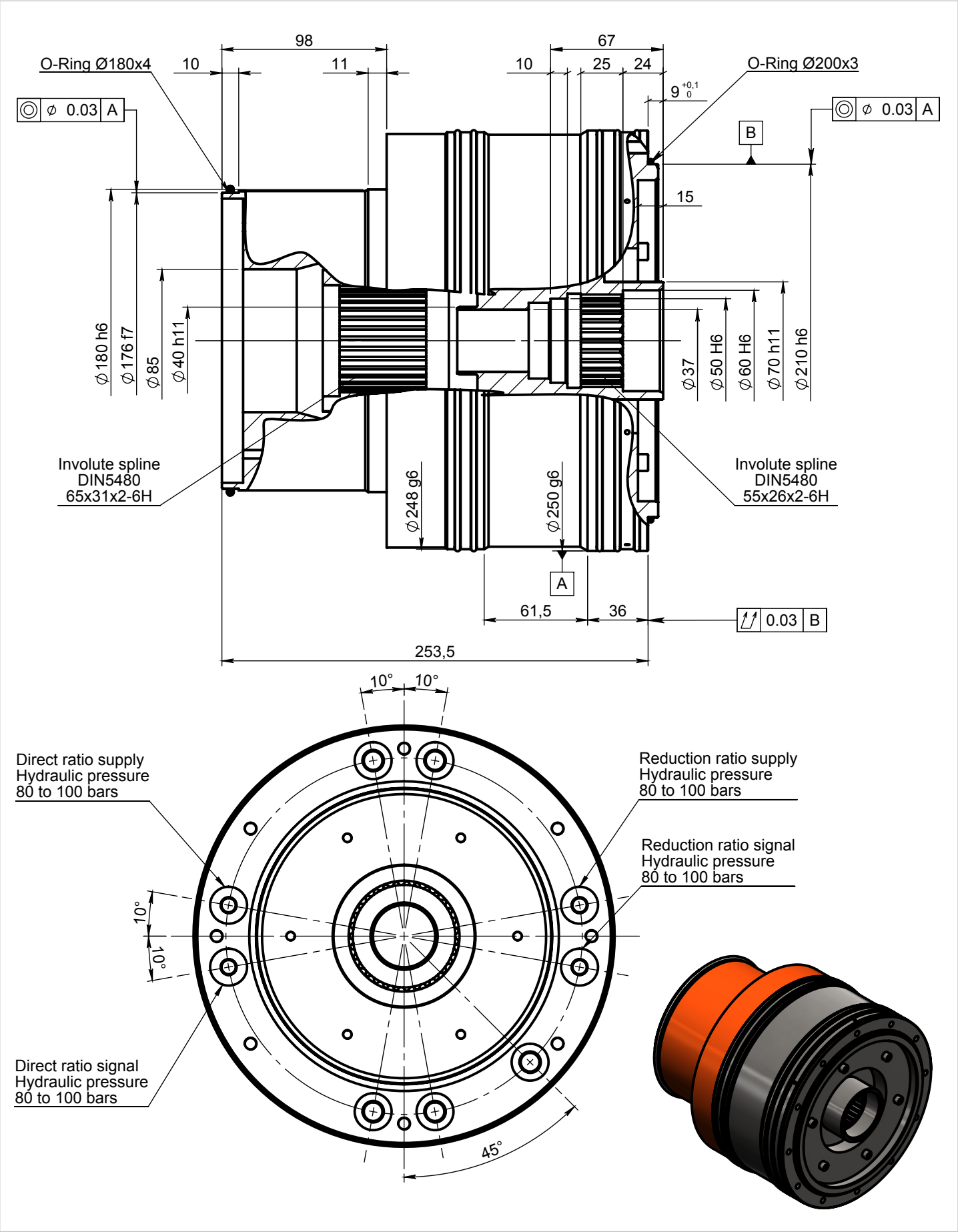
Unit codification		RAM220HiT
i1	High speed ratio	1,00
i2	Low speed ratio	5,00
T2B6	Maximum output torque (S6-40%)	Nm1800
T2N1	Nominal output torque (S1-100%)	Nm1300
n1B	Maximum input speed	RPM9000
n1N	Nominal input speed	RPM1500
OD	External diameter	mm220
ID	Internal diameter	mm33
li	Input interfaces	mm50x24x2-6H
lo	Output interfaces	mm60x28x2-6H
jt	Backlash	arcmin15
J1h	Inertia @ input (high speed ratio)	Kg.mm ² 3000
J1l	Inertia @ input (low speed ratio)	Kg.mm ² 2500
η	Efficiency at rated input speed	%97
Of	Oil flow rate (input)	L/min2,5 (1,5 - 6 bars)

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Pneumatic or hydraulic actuator – 2 positions
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Signal of gear changed: 80 to 100 bar
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- Cooling: oil or water



OUTLINE DIMENSIONS



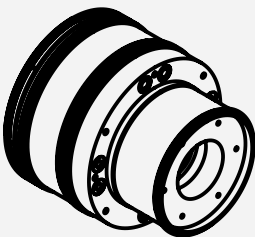
TECHNICAL FEATURES

PERFORMANCES

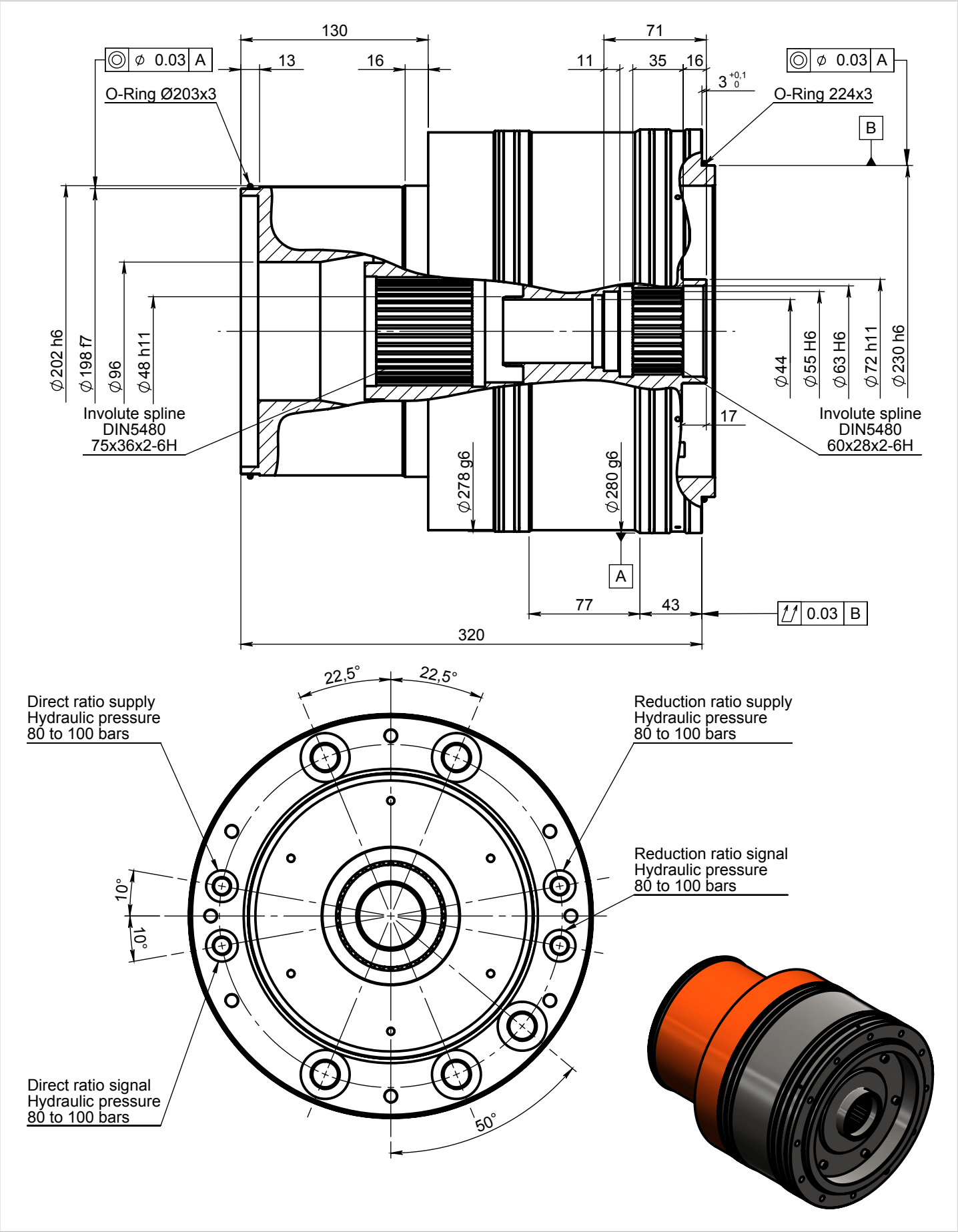
Unit codification		RAM250HiT
i1 High speed ratio		1,00
i2 Low speed ratio		5,00
T2B6 Maximum output torque (S6-40%)	Nm	2750
T2N1 Nominal output torque (S1-100%)	Nm	2000
n1B Maximum input speed	RPM	8000
n1N Nominal input speed	RPM	1500
OD External diameter	mm	250
ID Internal diameter	mm	38
li Input interfaces	mm	55x26x2-6H
lo Output interfaces	mm	65x31x2-6H
jt Backlash	arcmin	15
J1h Inertia @ input (high speed ratio)	Kg.mm ²	5600
J1l Inertia @ input (low speed ratio)	Kg.mm ²	4300
η Efficiency at rated input speed	%	97
Of Oil flow rate (input)	L/min	2,5 (2,5 - 6 bars)

ADDITIONAL FEATURES

- Paint RAL 2002
- All mounting positions possible, including swivelling mode (-150/+150°)
- Speed changer:
Pneumatic or hydraulic actuator – 2 positions
Pressure supply for gear change: 80 to 100 bar
Signal of gear changed: 80 to 100 bar
- Dry sump lubrication with synthetic PAO oil 10 to 32 cSt @ 40°C
- Cooling: oil or water



OUTLINE DIMENSIONS



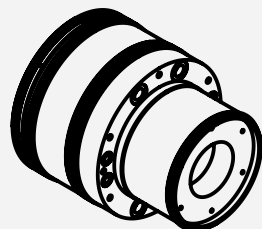
TECHNICAL FEATURES

PERFORMANCES

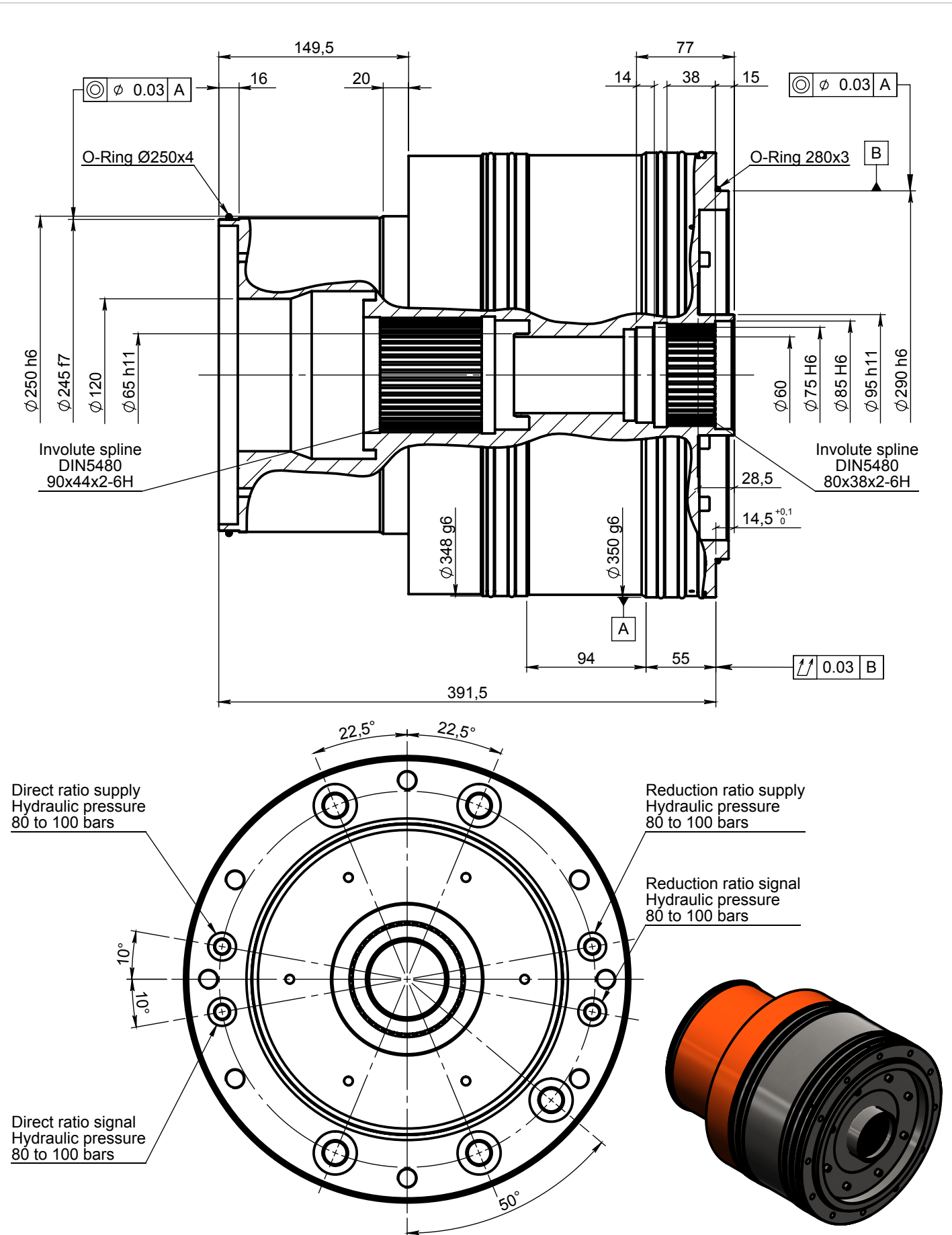
Unit codification		RAM280HiT
i1 High speed ratio		1,00
i2 Low speed ratio		5,00
T2B6 Maximum output torque (S6-40%)	Nm	4400
T2N1 Nominal output torque (S1-100%)	Nm	3000
n1B Maximum input speed	RPM	7000
n1N Nominal input speed	RPM	1500
OD External diameter	mm	280
ID Internal diameter	mm	44
li Input interfaces	mm	60x28x2-6H
lo Output interfaces	mm	75x36x2-6H
jt Backlash	arcmin	15
J1h Inertia @ input (high speed ratio)	Kg.mm²	11300
J1l Inertia @ input (low speed ratio)	Kg.mm²	8600
η Efficiency at rated input speed	%	97
Of Oil flow rate (input)	L/min	3 (1,5 - 6 bars)

ADDITIONAL FEATURES

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Pneumatic or hydraulic actuator – 2 positions
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Signal of gear changed: 80 to 100 bar
- Dry sump lubrication with synthetic PAO oil 10 to 32 cSt @ 40°C
- Cooling: oil or water



OUTLINE DIMENSIONS



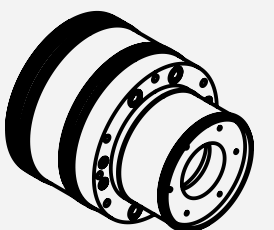
TECHNICAL FEATURES

PERFORMANCES

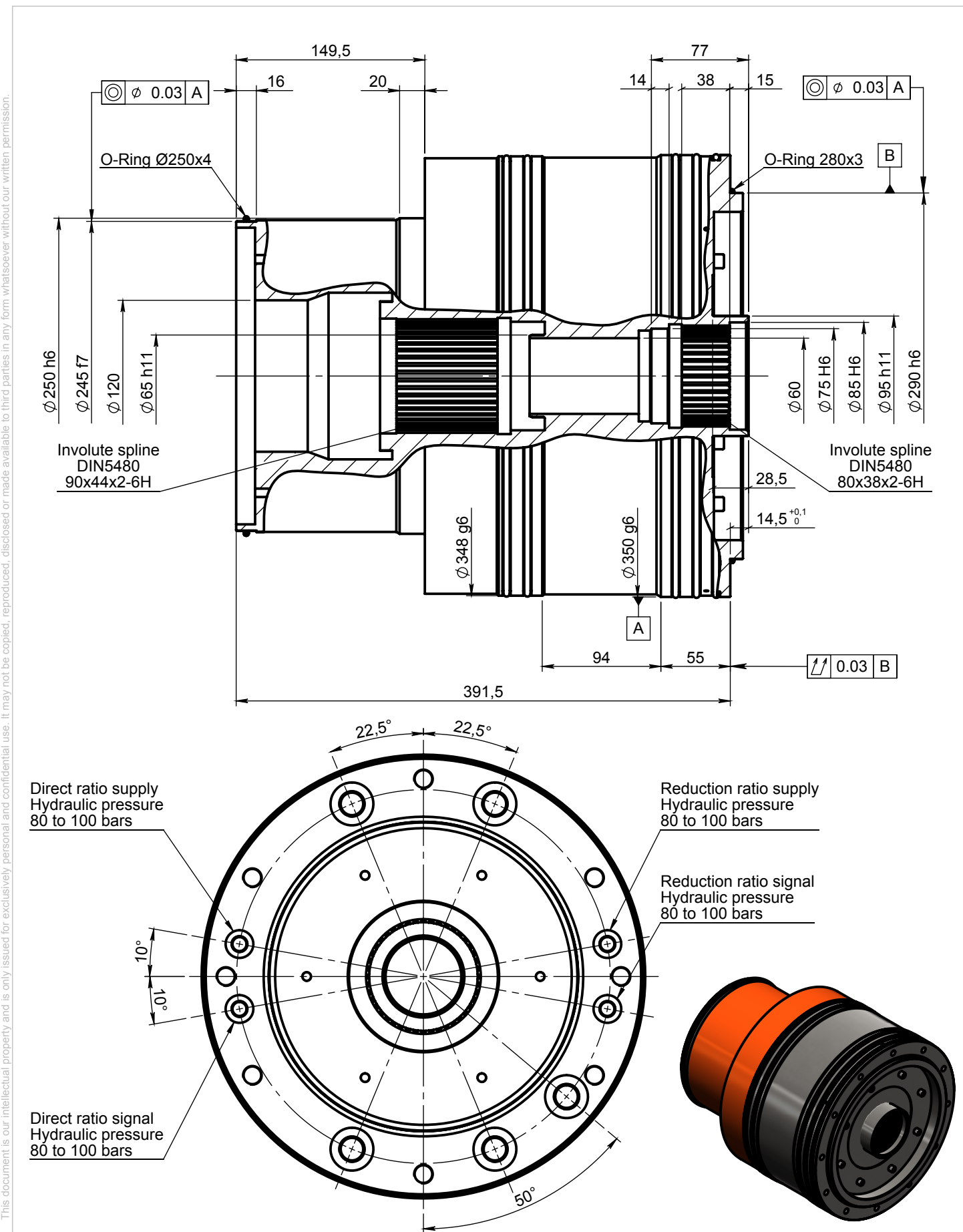
Unit codification			RAM350HiT
i1	High speed ratio		1,00
i2	Low speed ratio		5,00
T2B6	Maximum output torque (S6-40%)	Nm	10100
T2N1	Nominal output torque (S1-100%)	Nm	7000
n1B	Maximum input speed	RPM	6000
n1N	Nominal input speed	RPM	550
OD	External diameter	mm	350
ID	Internal diameter	mm	60
li	Input interfaces	mm	80x38x2-6H
lo	Output interfaces	mm	90x44x2-6H
jt	Backlash	arcmin	15
J1h	Inertia @ input (high speed ratio)	Kg.mm²	33400
J1l	Inertia @ input (low speed ratio)	Kg.mm²	25600
η	Efficiency at rated input speed	%	97
Of	Oil flow rate (input)	L/min	3 (2,5 - 6 bars)

ADDITIONAL FEATURES

- Paint RAL 2002
- All mounting positions possible, including swivelling mode (-150°/+150°)
- Speed changer:
Pneumatic or hydraulic actuator – 2 positions
Pressure supply for gear change: 80 to 100 bar
Signal of gear changed: 80 to 100 bar
- Dry sump lubrication with synthetic PAO oil 10 to 32 cSt @ 40°C
- Cooling: oil or water



OUTLINE DIMENSIONS



TECHNICAL FEATURES

PERFORMANCES

	Unit codification		RAM350+HiT
i1	High speed ratio		1,00
i2	Low speed ratio		5,00
i	Ratio code		-
T2B6	Maximum output torque (S6-40%)	Nm	14400
T2N1	Nominal output torque (S1-100%)	Nm	10000
n1B	Maximum input speed	RPM	4000
n1N	Nominal input speed	RPM	550
OD	External diameter	mm	350
ID	Internal diameter	mm	60
li	Input interfaces	mm	80x38x2-6H
lo	Output interfaces	mm	90x44x2-6H
jt	Backlash	arcmin	15
J1h	Inertia @ input (high speed ratio)	Kg.mm²	33400
J1l	Inertia @ input (low speed ratio)	Kg.mm²	25600
η	Efficiency at rated input speed	%	97
Of	Oil flow rate (input)	L/min	Consult us

ADDITIONAL FEATURES

- Paint RAL 2002
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