

AGRO POINT HUBS

The integrated solutions
for modern agricultural
attachments



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Demand of today's agricultural market is permanent increasing of productivity respecting the environment at the same time.

Agricultural equipment should satisfy a very rigid and demandable conditions of farmers: longer, harder and faster operating with minimal work stops.

In order to satisfy a modern tendency in agricultural equipment development, FKL has developed the AGRO POINT product line. In combination with disc this bearing hub is designed to work in various agricultural applications.

Our goal is to propose a complete range of modern hubs in order to have a ready solutions for any agricultural machinery.

Each model of hub has a certain loading capacity and basic dimensions, but mounting dimensions could be customer tailored solutions.

Considering that time is the most important factor for farmers, AGRO POINT product line is made as a long-term integrated solution which doesn't require maintenance or service and simply to be replaced after its lifetime.

FKL AGRO POINT helps to reduce the lubricant consumption and its unique sealing solution reduces possible soil contamination.

Providing the Best Solutions

Sealing Type Overview

Flange side/Front side	Cross section	Flange side/Front side	Cross section
RS seal/3-lip seal <i>Machine: Seeders</i>		Sheet metal shield+S seal/ 3-lip seal <i>Machine: Seeders</i>	
S seal/ Double 3-lip seal with reinforced sheet metal <i>Machine: Seeders</i>		O-ring+S seal/ 3-lip seal <i>Machine: Seeders</i>	
3-lip seal/ 3-lip seal <i>Machine: Seeders</i>		O-ring+Sheet metal shield+S seal/Double 3-lip seal with reinforced sheet metal <i>Machine: Seeders</i>	
3-lip seal/ S seal+Metal protective cap <i>Machine: Seeders</i>		O-ring+Sheet metal shield+RS seal/ RS seal+Dirtblock seal+ Forged cover plate <i>Machine: Disc Harrows</i>	
Sheet metal shield+S seal/ 3-lip seal+ Steel plate <i>Machine: Seeders</i>		O-ring+Sheet metal shield+ S seal/S seal+ Dirtblock seal+ Forged cover plate <i>Machine: Disc Harrows</i>	
O-ring+Sheet metal shield+ RS seal/3-lip seal+ Front 3-lip seal+ Metal protective cover <i>Machine: Seeders</i>			

Specific seal design could be recommended and developed by our design engineers in order to provide the best solution for specific application and typical environment.

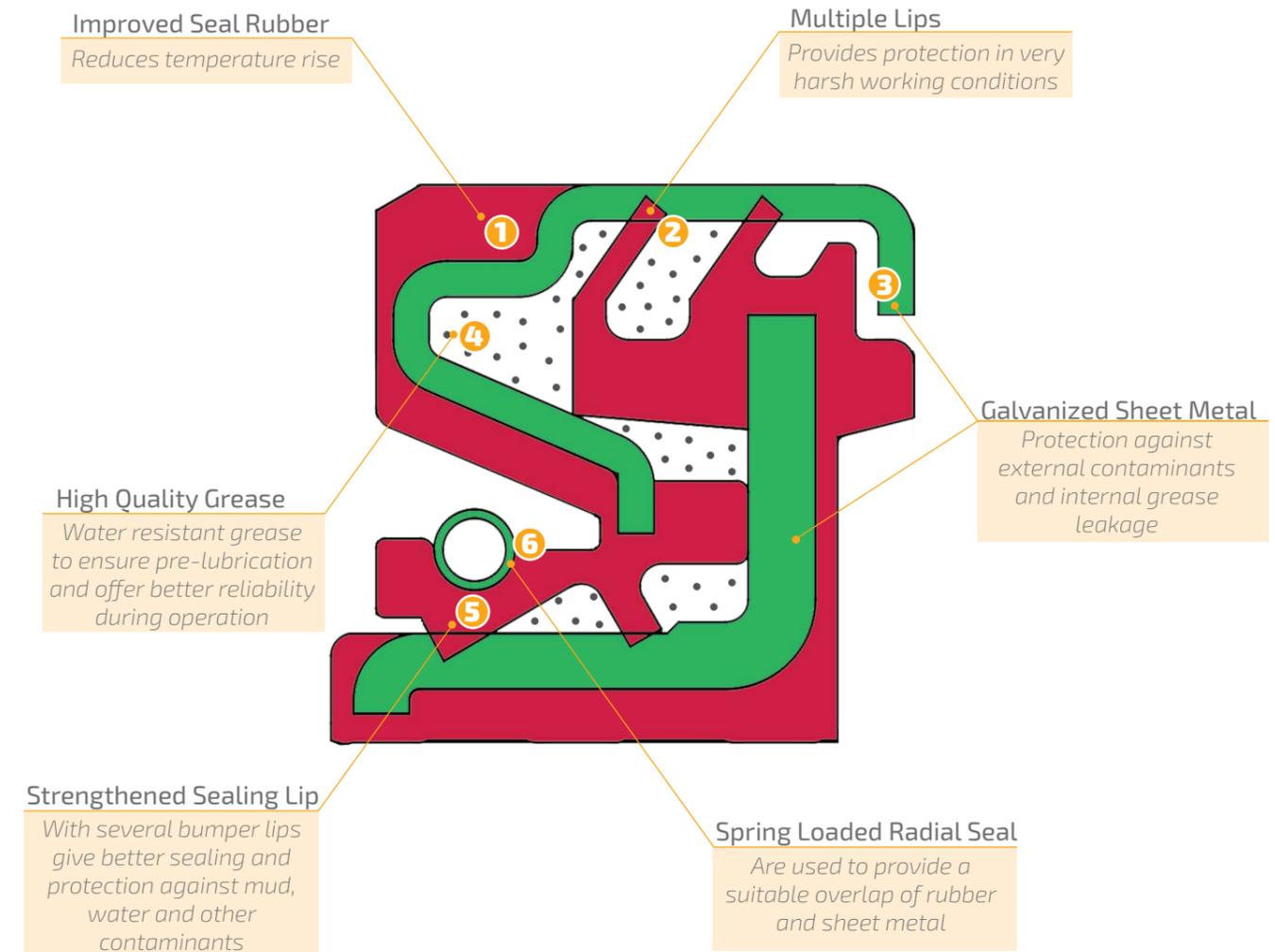
Dirtblock Seal

DESCRIPTION

FKL Dirtblock Seal is high-durability solution created for heavy-duty applications in harsh environmental and operating conditions. It is ideal for use where grease must be held in contact with rotary shaft and bearing assemblies, while at the same time sealing against external contaminants is required.

DESIGN

The labyrinth design effectively prevents mud penetration and dissipates the heat produced during operation. Design of hydrodynamic aid increases the pumping rate and reduces temperature rise and rubber wear.



HUB Testing

FKL's engineering-design team utilizes various tests of AGRO POINT HUBS in order to validate their performance before field testings.

Types of Testing:

- Service Life (picture 1.);
- Mud Slurry (picture 2.);
- Salt Chamber (picture 3.).

Testing validation of:

- Calculated bearing service time (working hours and hectares);
- Efficiency of anticorrosive protection;
- Sealing effectiveness;
- Inner design;
- Durability;
- The efficiency of complete solution.



1. Service Life Test



2. Mud Slurry Test

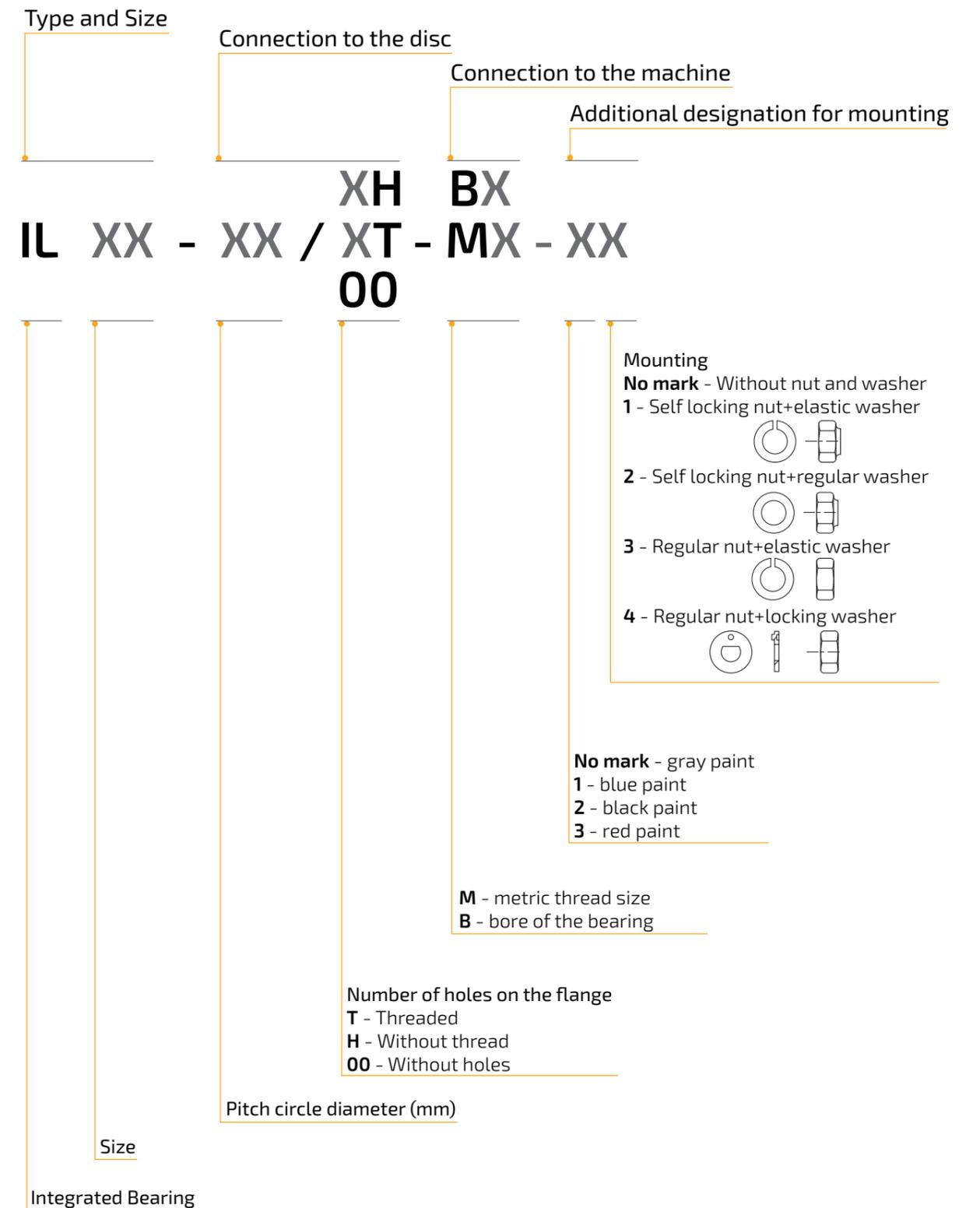


3. Salt Chamber Test

AGRO POINT Designation System

FKL AGRO POINT designation system consists of Hub type identification, connection to the disc and connection to the machine.

Prefixes and suffixes can be added to the basic designation of the Hubs.



AGRO POINT IL10

THE BEARING SOLUTION FOR SEEDING MACHINES, INTEGRATED FLANGE AND SHAFT

PRODUCT DESCRIPTION

AGRO POINT IL10 offers improved hub solution to support producers of seeders. Optimized internal hub design, four-point contact ball bearing, corrosion protected flange made from forging and split inner ring which allows higher load rating, make this solution more reliable for the seed drills operation.

ADVANTAGES

- Two inner rings are "connected" by small overlap between them where the one inner ring is the shaft at the same time.
- More reliable than simply "connection" of inner ring by light metal-sheet ring.
- Could be mounted between two discs from inside.
- Higher load rating provides longer life time.
- Integrated shaft – no needs for screw supply and mounting which means easier mounting and saving the mounting time.
- Increased reliability of this solution due to more robust inner construction.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 300 to 400 mm.



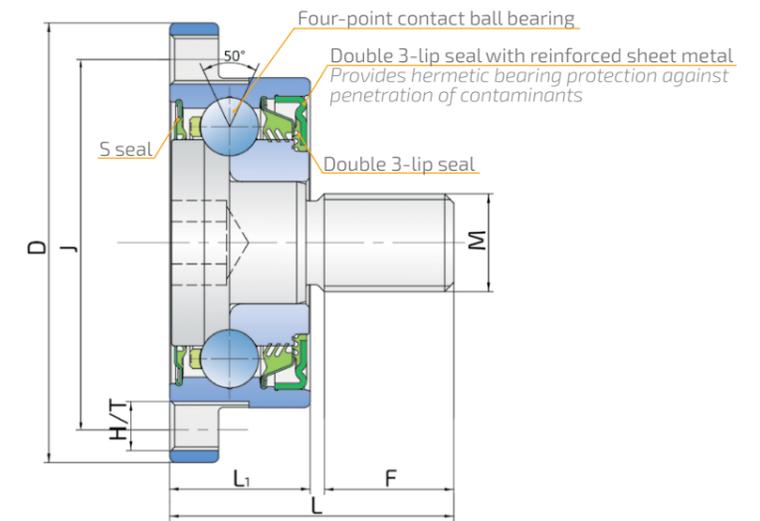
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL10

THE BEARING SOLUTION FOR SEEDING MACHINES, INTEGRATED FLANGE AND SHAFT

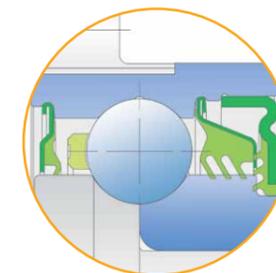


C= 32 kN
Co=22 kN

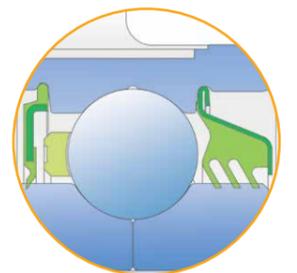
IL10	J	D	H/T	M	L	L ₁	F	kg
IL10-60/6T-M16 RH	60	72	6xM8x1	M16x1.5 right hand	46.5	23	19.2	0.41
IL10-60/6T-M16 LH	60	72	6xM8x1	M16x1.5 left hand	44.5	23	19.2	0.41

ADDITIONAL OPTION

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).



S seal/
Double 3-lip seal with
reinforced sheet metal



RS seal/
3-lip seal

MOUNTING INSTRUCTIONS

- Bolt M8x1, class 8 with helical spring washer;
- Required tools: Torque wrench with hexagon socket: size 24 (M16), Torque 175 Nm.



AGRO POINT IL20

THE BEARING SOLUTION FOR SEEDING MACHINES, INTEGRATED FLANGE

PRODUCT DESCRIPTION

AGRO POINT IL20 offers improved hub solution to support producers of seeders. Optimized internal hub design, four-point contact ball bearing, with integrated flange gives the possibility for higher loads, faster and more reliable operating of seeding machines.

ADVANTAGES

- Extended product reliability.
- Forged flange increases the rigidity of the hub and prevents deformation at mounting and operating.
- Longer hub's lifetime due to powerful sealing and higher load rating for 12% comparing to version with double row angular contact ball bearing in metal sheet housing PL-7520.
- Maintenance-free design helps reduce operating costs
- Corrosion protected flange surface.
- Hermetically pressed metal protective cap prevents penetration of dust and humidity.



GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.

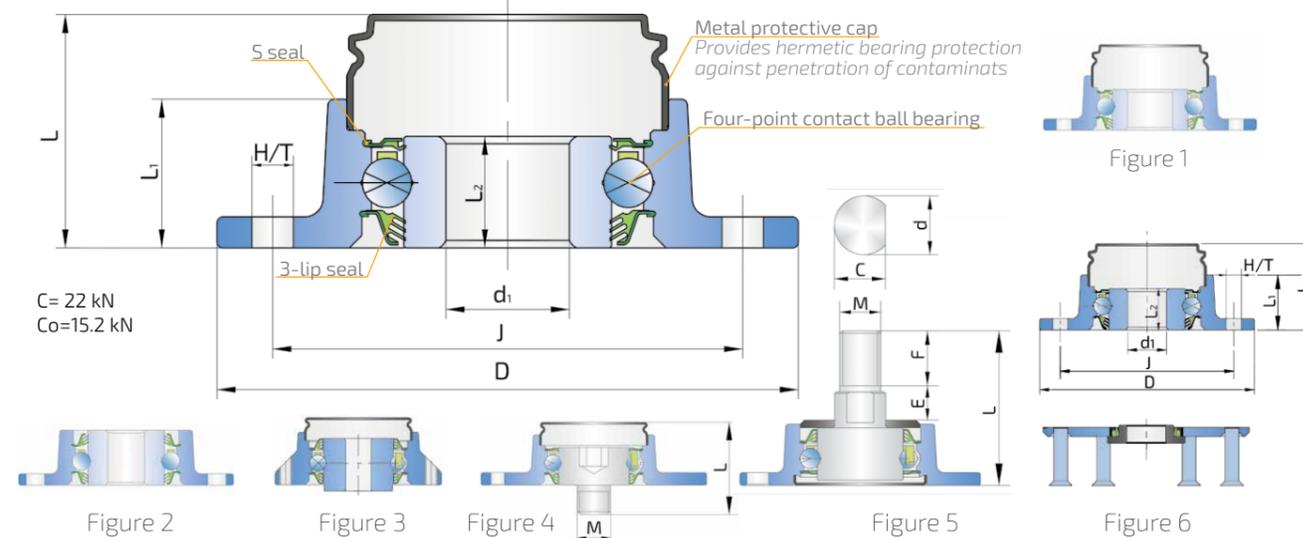
RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 300 to 400 mm.



AGRO POINT IL20

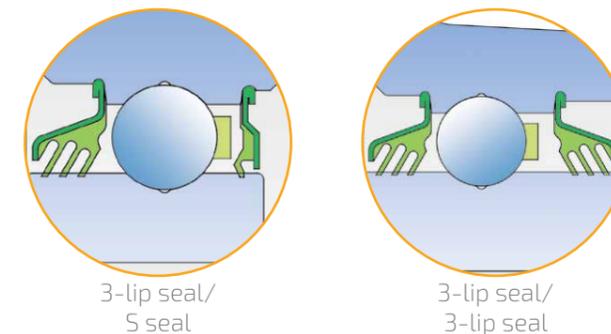
THE BEARING SOLUTION FOR SEEDING MACHINES, INTEGRATED FLANGE



IL20	J	D	H/T	d	C	d ₁	M	L	L ₁	L ₂	E	F	kg	Figure
IL20-70/6T-B12	70	80	6xM6	-	-	12.2	-	32.5	25.5	25.5	-	-	0.59	3
IL20-71/6T-B16	71	81	6xM8	-	-	16.03	-	25.5	-	22.5	-	-	0.51	2
IL20-73/6H-B16	73.5	94	6x6.4	-	-	16	-	40.7	24	27	-	-	0.75	1
IL20-74/6H-B20	74	94	6x9	-	-	20	-	37.7	24	18	-	-	0.48	1
IL20-75/6H-B16	75	94	6x6.4	-	-	16	-	37.7	24	18	-	-	0.50	1
IL20-75/6H-B17	75	94	6x6.4	-	-	17	-	37.7	24	18	-	-	0.50	1
IL20-75/6T-B17	75	94	6xM8	-	-	17	-	37.7	24	18	-	-	0.50	1
IL20-75/6H-B17+GK	75	94	6x6.4	-	-	17	-	37.7	24	18	-	-	0.75	6
IL20-75/6H-B20	75	94	6x6.4	-	-	20	-	37.7	24	18	-	-	0.50	1
IL20-79/6H-B16	79.4	94	6x8.1	-	-	16	-	24	-	24	-	-	0.50	2
IL20-80/5H-M16	80	94	5x8.5	20	18.5	-	M16	60.5	25.5	-	13.5	21.5	0.66	5
IL20-80/6H-M16	80	94	6x8.5	20	18.5	-	M16	60.5	25.5	-	13.5	21.5	0.59	5
IL20-80/6T-M16x2	80	94	6xM8x1.25	20	18.5	-	M16x2	71.6	38	-	12.4	21.2	0.73	5
IL20-82/5T-B16	82	108	5xM8	-	-	16.2	-	24	-	24	-	-	0.64	2
IL20-85/6H-B20	85	95	6x6.4	-	-	20	-	37.7	24	18	-	-	0.48	1
IL20-92/5H-M16-R	92	108	5x6.4	-	-	-	M16x1.5	51.7	24	-	-	14	0.67	4
IL20-92/5H-M16-L	92	108	5x6.4	-	-	-	M16x1.5-left	51.7	24	-	-	14	0.67	4

ADDITIONAL OPTION

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).



MOUNTING INSTRUCTIONS

- Rivets 6 mm or 1/4";
- Self locking class 8 hex nuts with helical spring washer;
- Required tools: Torque wrench with hexagon socket: size 24 (M16), Torque 130 Nm; size 30 (M20), Torque 200 Nm.



AGRO POINT IL25

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS, INTEGRATED FLANGE

PRODUCT DESCRIPTION

AGRO POINT IL25 is FKL's high-performance solution for finger weeders, no-till and strip-till seeders, coulters disc blades for seeders and marker disc blade for ploughs. The hub is greased and sealed for the lifetime of the bearing.

Optimized internal bearing design (double-row angular contact ball bearing) with integrated flange and double 3-lip sealing provides a multiple service life of this bearing, higher loads, faster and more reliable operating of machines.

ADVANTAGES

- Longer hub's lifetime due to powerful sealing solution.
- Forged flange provides rigidity of the hub and prevents deformation at mounting and operating.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange.
- Easy mounting and replacement.
- A bigger load rating for 45% and 10% than IL20 and IL30 hub ranges have, respectively.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 300 to 400 mm.

Note: IL 25 is recommended for applications with an angle of attack between 6-12°.



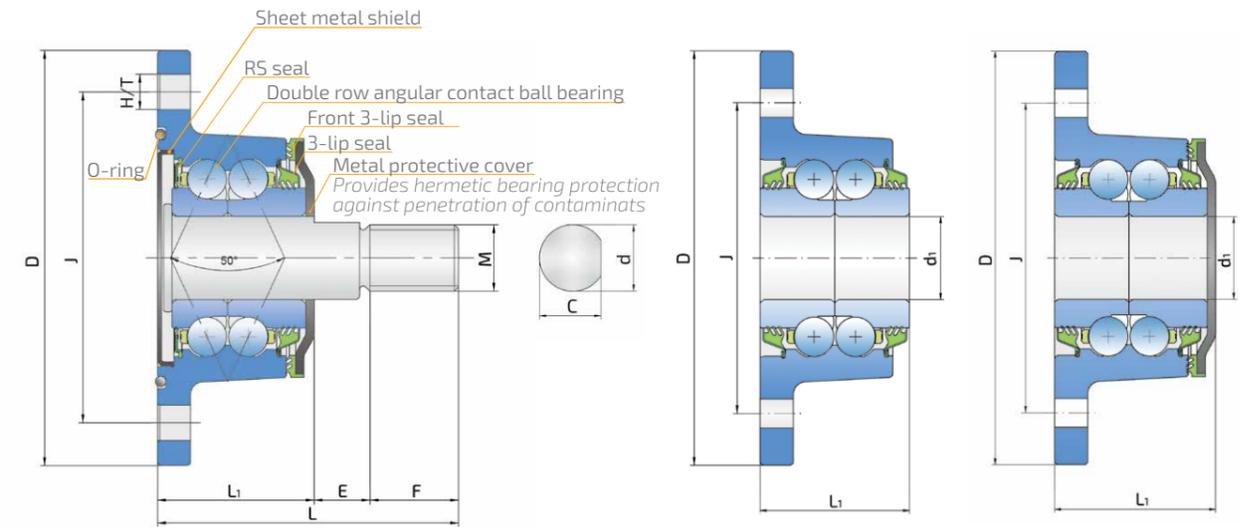
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL25

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS, INTEGRATED FLANGE



C= 32 kN
Co=22 kN

Figure 1

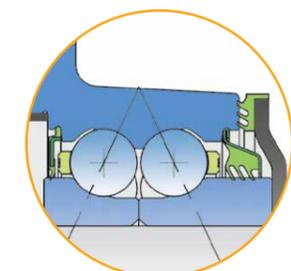
Figure 2

Figure 3

IL25	J	D	H/T	d	C	d ₁	M	L	L ₁	E	F	kg	Fig.
IL25-75/6H-B20	75	100	5x7	-	-	20	-	-	36	-	-	0,78	2
IL25-75/6H-B20-T	75	100	5x7	-	-	20	-	-	39	-	-	0,78	3
IL25-80/5H-M16-T	80	100	5x8.5	20	18.5	-	M16	73	38	13.5	21.5	0,99	1
IL25-80/6T-M16-T-40	80	100	6xM8	20	18.5	-	M16	73	38	13.5	21.5	0,99	1
IL25-80/6T-M16-T	80	100	6xM8	20	18.5	-	M16	73	38	11	24	0,99	1
IL25-98/4T-B20	98	117	4xM12x1.25	-	-	20	-	-	36	-	-	0,78	2
IL25-98/4T-B20-T	98	117	4xM12x1.25	-	-	20	-	-	39	-	-	0,78	3

ADDITIONAL OPTION

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).



RS seal/
3-lip seal + Front 3-lip seal +
Metal protective cover

MOUNTING INSTRUCTIONS

- Bolt M8x1, class 8 with helical spring washer;
- Required tools: Torque wrench with hexagon socket: size 24 (M16), Torque 175 Nm.



AGRO POINT IL30

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS AND COULTER DISCS OF PLOUGHS, INTEGRATED FLANGE

PRODUCT DESCRIPTION

AGRO POINT IL30 is reinforced version of IL20 for heavy duty seeding machines working in harsh conditions and coulters discs for ploughs as well.

It is recommended for use in NO-TILL FARMING technology, for direct seeding machines. That demand higher loads and working in harsh seeding conditions.

No-till farming implies way of growing crops without disturbing the soil through tillage.

Optimized internal hub design, four-point contact ball bearing with integrated flange, gives the possibility for higher loads, faster and more reliable operating of seeders.

ADVANTAGES

- Extended product reliability.
- Longer hub's life span due to powerful sealing and increased load rating for 30% comparing to IL20.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 350 to 450 mm.



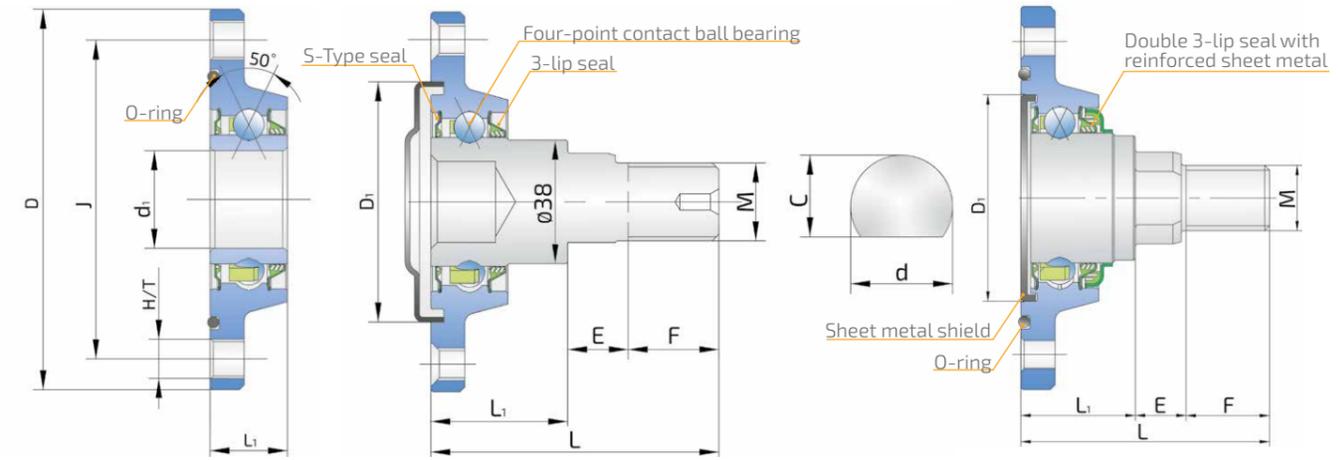
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL30

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS AND COULTER DISCS OF PLOUGHS, INTEGRATED FLANGE



C= 29.6 kN
Co=21 kN

Figure 1

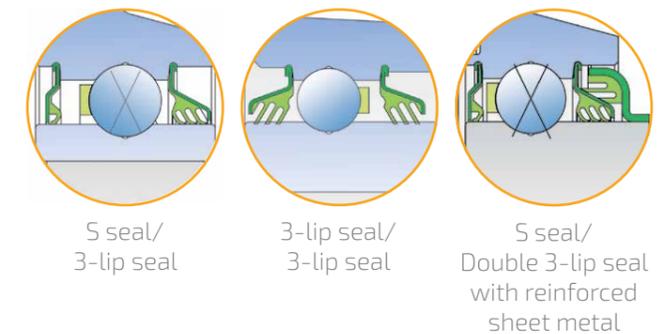
Figure 2

Figure 3

IL30	J	D	Di	H/T	d	C	d ₁	M	L	L ₁	E	F	kg	Figure
IL30-95/6H-M20	95.5	117	63	6x8.5	28	25.4	-	M20	76	35	15.5	25.5	1.21	3
IL30-98/4T-B30	98	117	-	4xM12x1.25	-	-	30	-	-	23.8	-	-	0.91	1
IL30-98/4T-M20	98	117	63	4xM8	20	17	-	M20	77	40	7	30	1.14	3
IL30-98/4H-B30	98	117	-	4x10	-	-	30	-	-	23.8	-	-	0.91	1
IL30-98/5T-B30	98	117	-	5xM12x1.5	-	-	30	-	-	24.8	-	-	0.93	1
IL30-100/4T-M24x2	100	117	74	4xM10	30	27.5	-	M24x2	89	42.3	18.7	28	1.51	2

ADDITIONAL OPTIONS

- Standard seal design could be improved by triple lip sealing on both sides or double 3-lip sealing on opposite disc side.
- Design flexibility: different hole pattern is available (J parameter, type and number of holes).



MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm;
- Nut torque: 300 Nm;
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer;
- Required tools: Torque wrench with hexagon socket: size 19 (Bolts M12x1.25); size 32 (Nut M22); size 36 (Nut M24).



AGRO POINT IL35

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS AND COULTER DISCS OF PLOUGHS, INTEGRATED FLANGE

PRODUCT DESCRIPTION

AGRO POINT IL35 is reinforced version of IL25 for finger weeders, no-till and strip-till seeders, coulters disc blades for seeders. The hub is greased and sealed for the lifetime of the bearing.

Optimized internal bearing design (double-row angular contact ball bearing) with integrated flange and combination of 3-lip sealing and RS seal with steel shield provides a multiple service life of this bearing, higher loads, faster and more reliable operating of machines.

ADVANTAGES

- Extended product reliability.
- Longer hub's lifetime due to powerful sealing solution.
- Forged flange provides rigidity of the hub and prevents deformation at mounting and operating.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange.
- Easy mounting and replacement.
- A bigger load rating for 17% than IL25 has respectively.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 350 to 500 mm.



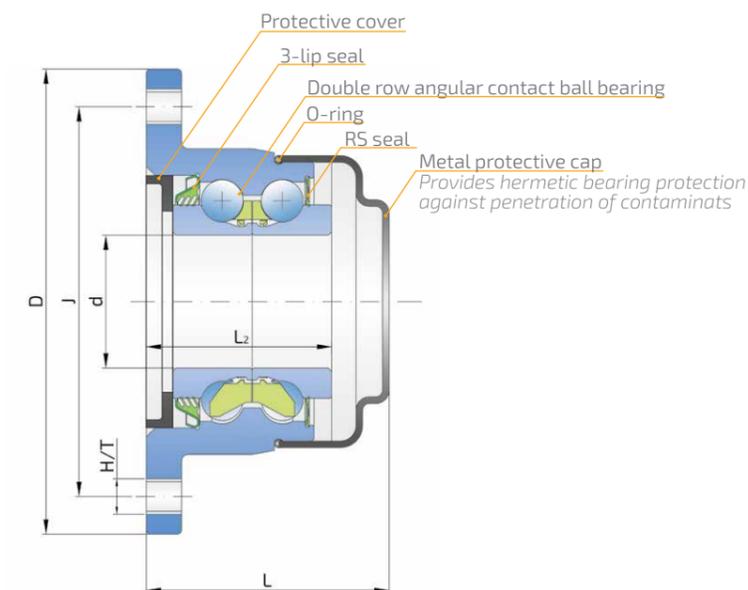
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL35

THE BEARING SOLUTION FOR HARSH SEEDING CONDITIONS AND COULTER DISCS OF PLOUGHS, INTEGRATED FLANGE

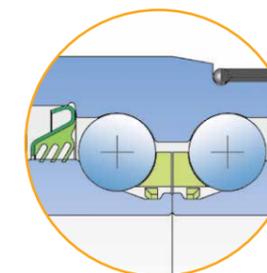


C= 37.5 kN
Co=26.5 kN

IL30	J	D	H/T	d	L	L ₂	kg
IL35-88/4T-B30	88	105	4x8x1.25	30	55	42	1

ADDITIONAL OPTION

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).



3-lip seal/
RS seal

MOUNTING INSTRUCTIONS

- Bolt M8x1.25 mounting torque: 100 Nm;
- Nut torque: 300 Nm;
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer;
- Required tools: Torque wrench with hexagon socket: size 30 (Nut M20); size 32 (Nut M22).



AGRO POINT IL40

INTEGRATED FLANGE, MAINTENANCE FREE BEARING

PRODUCT DESCRIPTION

AGRO POINT IL40 is FKL's high performance solution for disc harrows, greased and sealed for the lifetime of the hub.

Optimized internal hub design, double row angular contact ball bearing, with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- Longer hub's lifetime due to powerful Dirtblock sealing.
- Higher impact resistance from flange side of the hub due to the thicker forged cover.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5-20 km/h;
- Temperature range: -20 to +50 C;
- Disc diameter: from 400 to 560 mm.

Note: for discs from 500 to 560 mm elastic suspension is mandatory.



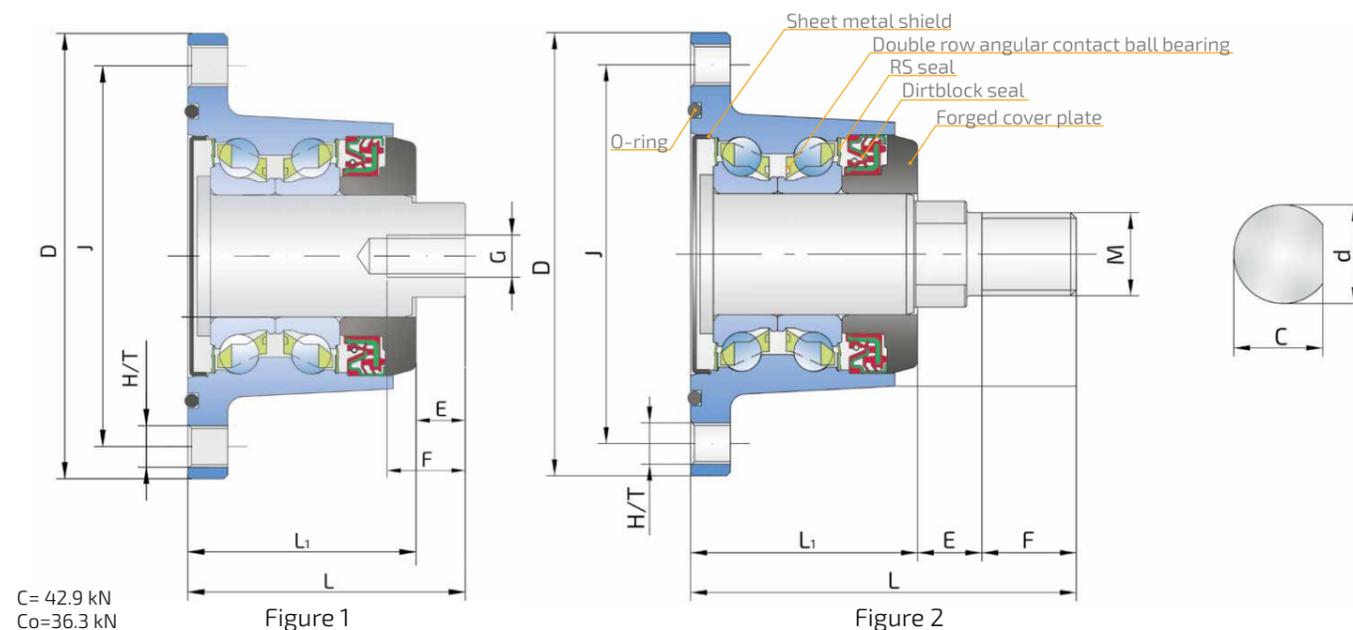
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL40

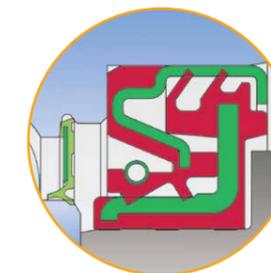
INTEGRATED FLANGE, MAINTENANCE FREE BEARING



IL40	J	D	H/T	d	C	M	G	L	L ₁	E	F	kg	Figure
IL40-98/4T-M22	98	117	4xM12x1.25	27.95	25.4	M22x1.5	-	102	60	17	25	2.16	2
IL40-98/5T-M22	98	117	5xM12x1.25	27.95	25.4	M22x1.5	-	102	60	17	25	2.16	2
IL40-98/6T-M22	98	117	6xM12x1.25	27.95	25.4	M22x1.5	-	102	60	17	25	2.16	2
IL40-98/4T-M24	98	117	4xM12x1.25	30	27.5	M24x2	-	106	60	17	29	2.16	2
IL40-98/5T-M24	98	117	5xM12x1.25	30	27.5	M24x2	-	106	60	17	29	2.20	2
IL40-98/6T-M24	98	117	6xM12x1.25	30	27.5	M24x2	-	106	60	17	29	2.20	2
IL40-100/6T-M20x1.5	100	117	6xM10	34	31	-	M20x1.5	69	55	14	26	2	1

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Nut torque: 300 Nm.
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer.
- Required tools: Torque wrench hexagon socket: size 19 (Bolts M12x1.25); size 32 (Nut M22); size 36 (Nut M24).



AGRO POINT IL40M

INTEGRATED FLANGE, MAINTENANCE FREE BEARING

PRODUCT DESCRIPTION

AGRO POINT IL40M is modified solution of IL40 hub for disc harrows, greased and sealed for the lifetime of the hub.

Bigger and stronger integrated flange, optimized internal hub design, double row angular contact ball bearing, with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- Longer hub's lifetime due to powerful Dirtblock sealing.
- Higher impact resistance and more robust solution than IL40 type.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5-20 km/h;
- Temperature range: -20 to +50 C;
- Disc diameter: from 500 to 610 mm.

Note: for discs from 560 to 610 mm elastic suspension is mandatory.



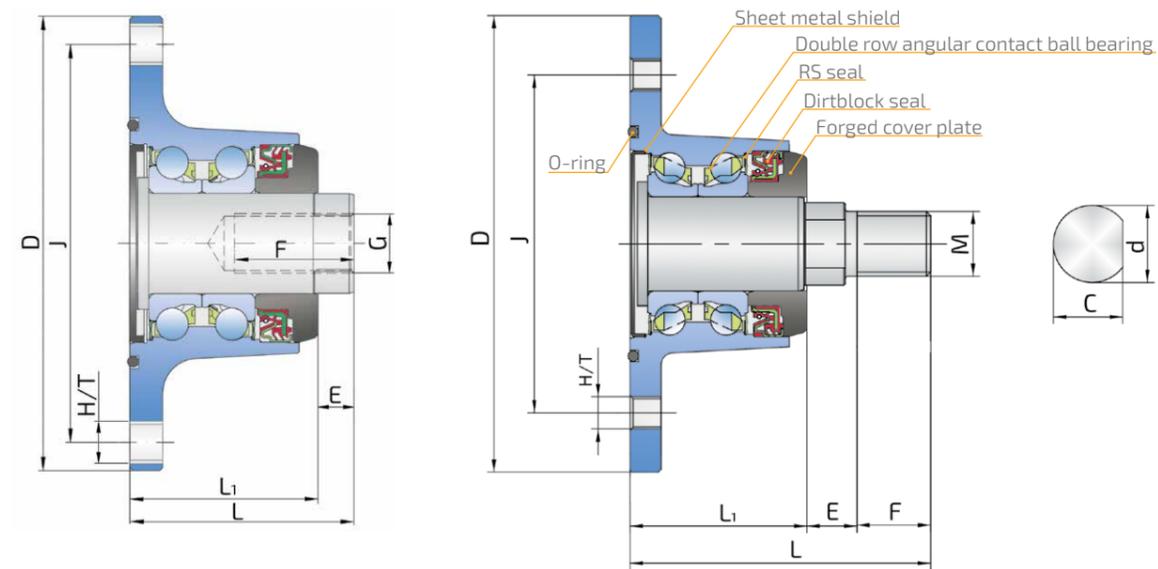
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL40M

INTEGRATED FLANGE, MAINTENANCE FREE BEARING



C= 42.9 kN
Co=36.3 kN

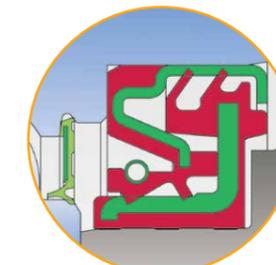
Figure 1

Figure 2

IL40M	J	D	H/T	d	C	M	G	L	L ₁	E	F	kg	Figure
IL40-104/5T-M22x1.5-01	104	145	5xM12x1.25	27.95	25.4	M22x1.5	-	101	55	21	25	2.48	2
IL40-108/5T-M22x1.5	108	145	5xM12x1.25	27.95	25.4	M22x1.5	-	102	60	17	25	2.70	2
IL40-110/4H-M24x1.5	110	145	4x13	24	22.5	M24x1.5	-	129	74	20	35	2.81	2
IL40-110/4H-M30x2	110	145	4x13	34.9	32.4	M30x2	-	134	76	20	38	3.20	2
IL40-110/6H-M22x1.5	110	145	6x10.5	28	25.4	M22x1.5	-	110	60	17	33	2.62	2
IL40-112/5T-M24x2	112	145	5xM12x1.5	30	28	M24x2	-	101	55	21	25	2.48	2
IL40-115/5H-M22x1.5	115	145	5x13	28	25.5	M22x1.5	-	101	55	18	28	2.48	2
IL40-120/4H-M22x1.5	120	145	4x11	28	25.4	M22x1.5	-	110	60	17	33	2.79	2
IL40-127/4T-3/4-16UNF	127	145	4x1/2"-13UNC	31.8	29	-	3/4"-16 UNF	71.5	60	11.5	38.1	2.50	1

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm;
- Nut torque: 300 Nm;
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer;
- Required tools: Torque wrench
hexagon socket: size 19 (Bolts M12x1.25);
size 32 (Nut M22);
size 36 (Nut M24).



AGRO POINT IL50

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS

PRODUCT DESCRIPTION

AGRO POINT IL50 is FKL's high performance solution for disc harrows. The hubs are greased and sealed for the lifetime of the hub.

Optimized internal hub design, double row angular contact ball bearing, with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- Longer hub's life span due to the powerful Dirtblock sealing and 30% higher load rating comparing to IL40 and other competitive hubs from the same range.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 560 to 710 mm.



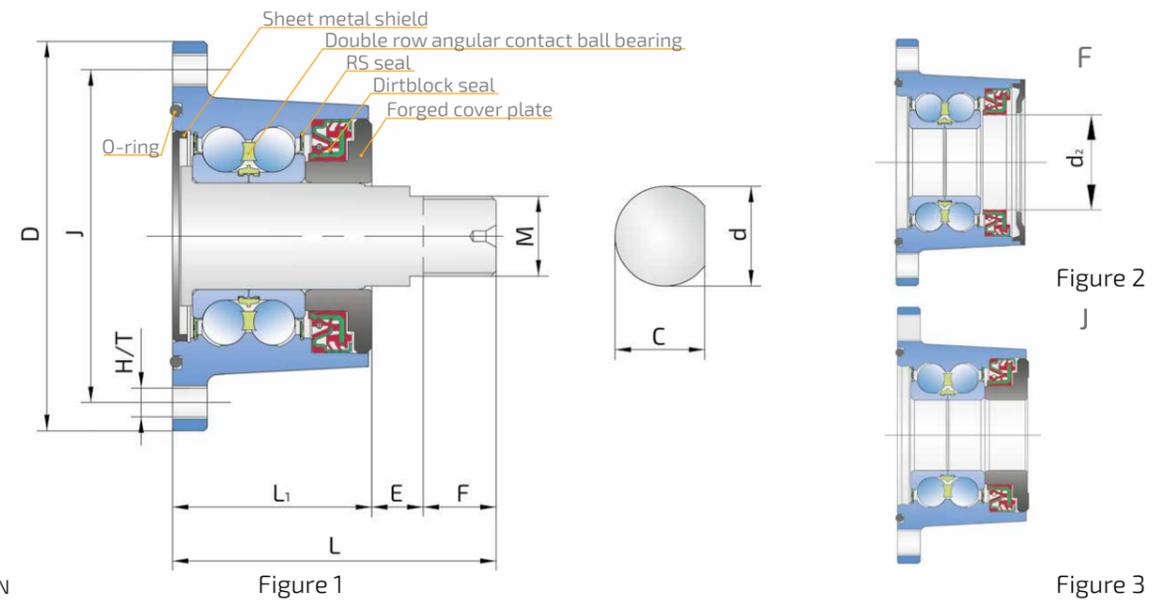
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL50

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS

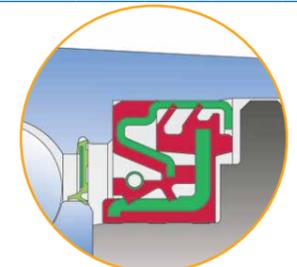


C= 60 kN
Co=45.8 kN

IL50	J	D	H/T	d	C	d ₂	M	L	L ₁	E	F	kg	Figure
IL50-98/4T-M22	98	117	4xM12x1.25	27.95	25.4	-	M22x1.5	102	60	17	25	2.51	1
IL50-98/5T-M22	98	117	5xM12x1.25	27.95	25.4	-	M22x1.5	102	60	17	25	2.50	1
IL50-98/6T-M22	98	117	6xM12x1.25	27.95	25.4	-	M22x1.5	102	60	17	25	2.51	1
IL50-98/6T-M22-113	98	117	6xM12x1.25	27.95	25.4	-	M22x1.5	113	60	28	25	2.54	1
IL50-98/4T-M24	98	117	4xM12x1.25	30	27.5	-	M24x2	106	60	17	29	2.55	1
IL50-98/5T-M24	98	117	5xM12x1.25	30	27.5	-	M24x2	106	60	17	29	2.55	1
IL50-98/6T-M24	98	117	6xM12x1.25	30	27.5	-	M24x2	106	60	17	29	2.51	1
IL50-98/4T-B30-F	98	117	4xM12x1.25	-	-	45	-	-	61	-	-	1.87	2
IL50-98/4T-B30-J	98	117	4xM12x1.25	-	-	-	-	-	60	-	-	1.96	3
IL50-98/6T-B30-J	98	117	6xM12x1.25	-	-	-	-	-	60	-	-	1.95	3
IL50-100/4T-1"	100	117	4xM10	30	27.95	-	1" SAE14h	125	60	36	29	2.67	1
IL50-100/6T-M24.R	100	117	6xM10x1.25	30	27	-	M24x1.5	97.5	60	15.5	22	2.51	1
IL50-100/6T-M24.L	100	117	6xM10x1.25	30	27	-	M24x1.5-Left	97.5	60	15.5	22	2.51	1
IL50-103/5T-M22	103	119	5xM12x1.25	27.95	25.4	-	M22x1.5	102	60	17	25	2.51	1

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Nut torque: 300 Nm.
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer.
- Required tools: Torque wrench hexagon socket: size 19 (Bolts M12x1.25); size 32 (Nut M22); size 36 (Nut M24).



AGRO POINT IL50S

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS

PRODUCT DESCRIPTION

AGRO POINT IL50S is FKL's high performance solution for disc harrows. The hubs are greased and sealed for the lifetime of the hub.

Optimized internal hub design, double row angular contact ball bearing, with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- Longer hub's life span due to the powerful Dirtblock sealing and 15% higher load rating comparing to other competitive hubs from the same range.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.



GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.

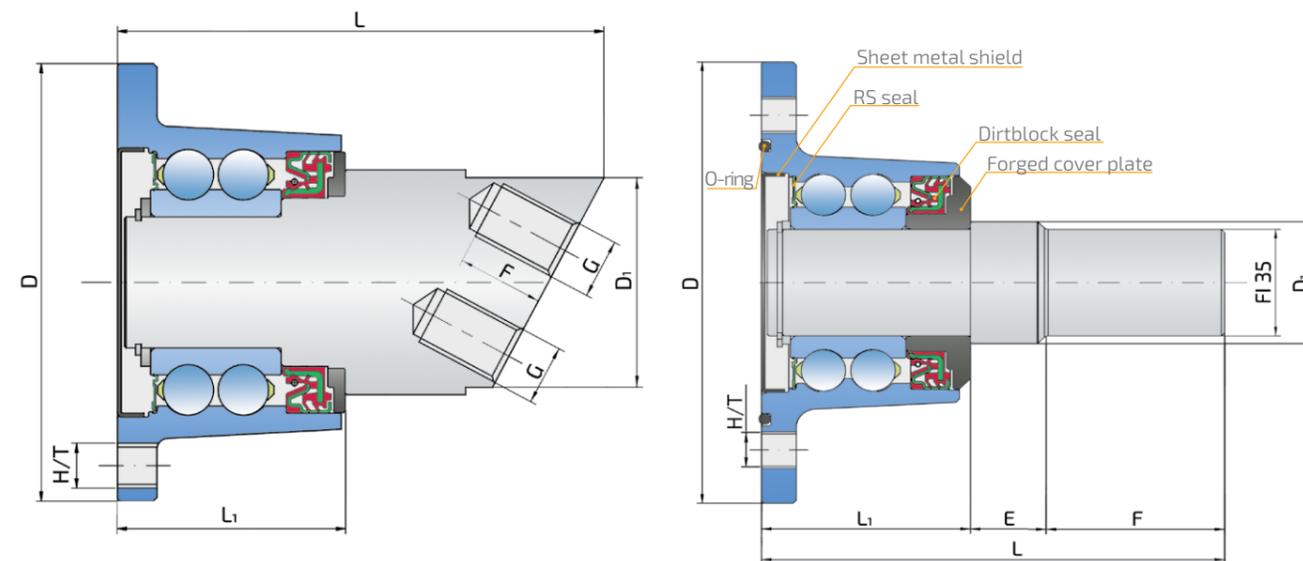
RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 560 to 610 mm.



AGRO POINT IL50S

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS



C= 48.76 kN
Co=35.3 kN

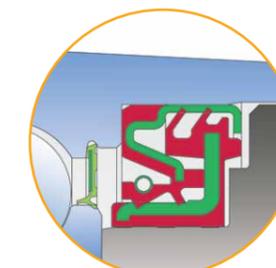
Figure 1

Figure 2

IL50S	J	D	D ₁	H/T	G	L	L ₁	E	F	kg	Fig.
IL50S-98/3T-2xM16	98	117	56	3xM12	M16x2	130	59.8	-	23	3.40	1
IL50S-110/4T-D35	110	145	35	4xM12x1.25	-	140	63	23	54	3.317	2
IL50S-110/4T-2xM16-40	110	145	60	4xM12x1.25	M16x2	145.4	61	-	24	3.973	1

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Bolt M16 mounting torque: 175 Nm.
- Required tools: Torque wrench hexagon socket: size 19 (Bolts M12x1.25).



AGRO POINT IL50M

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS

PRODUCT DESCRIPTION

AGRO POINT IL50M is modified solution of IL50 for disc harrows. The hubs are greased and sealed for the lifetime of the hub.

Bigger and more robust flange, optimized internal hub design, double row angular contact ball bearing, with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- Longer hub's life span due to the powerful Dirtblock sealing and 30% higher load rating comparing to IL40M and other competitive hubs from the same range.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 630 to 710 mm.

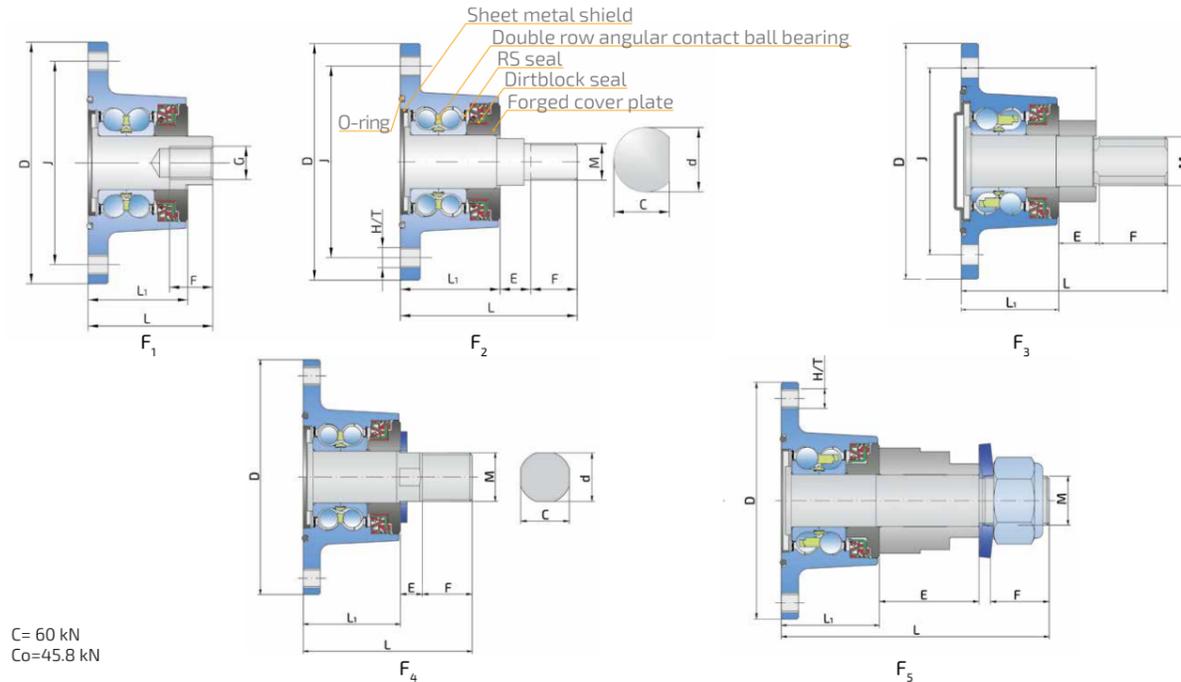


GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.

AGRO POINT IL50M

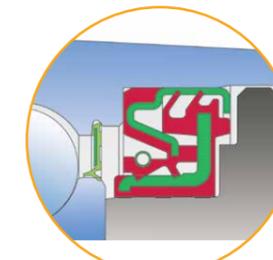
INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS



IL50M	J	D	H/T	d	C	M	G	L	L ₁	E	F	kg	Figure
IL50-105/4H-M24x1.5-RH	105	145	4x12.3	30	27	M24x1.5-RH	-	97.5	60	15.5	22	3.10	2
IL50-105/4H-M24x1.5-LH	105	145	4x12.3	30	27	M24x1.5-LH	-	97.5	60	15.5	22	3.10	2
IL50-112/5T-M24x2	112	145	5xM12x1.25	30	28	M24x2	-	106	60	20	26	3.02	2
IL50-115/5H-M22	115	145	5x13	27.95	25.4	M22x1.5	-	102	60	17	25	2.95	2
IL50-115/4H-M30x2	115	145	4x12.5	30	26.9	M30x2	-	127	60	25	42	3.38	3
IL50-120/6H-M24x1.5	120	145	6x13	30	27	M24x1.5	-	97.5	60	15.5	22	2.96	2
IL50-122/6T-M20x1.5	122	145	6xM12x1.25	31.8	29	-	M20x1.5	75	60	15	26	2.99	1
IL50-125/4T-M30x2	125	145	4xM12-6H	30	30	M30x2	-	104.3	60	13.6	30.7	3.15	4
IL50-125/6T-M30x2-164	125	145	6xM12x1.75	64.5	60	M30x2	-	164	60	61	36	4.79	5

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Nut torque: 300 Nm.
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer.
- Required tools: Torque wrench hexagon socket: size 19 (Bolts M12x1.25); size 32 (Nut M22); size 36 (Nut M24).



AGRO POINT IL50A AND IL50B

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS

PRODUCT DESCRIPTION

AGRO POINT IL50A and IL50B are modified solutions of IL50, designed for disc harrows. The hubs are greased and sealed for the lifetime of the hub.

Optimized internal hub design, double row angular contact ball bearing with integrated flange and Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions.

The IL50A allows the D-shaped cross section on the shaft to be up to 35 mm, which enables the threaded hole in the shafts to be 3/4" or M20.

The IL50B implies mounting of the disc on the hub from hub body side i.e. on the opposite side of the usual one.

ADVANTAGES

- Longer hub's life span due to the powerful Dirtblock sealing and 30% higher load rating comparing to other competitive hubs from the same range.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: from 660 to 710 mm.



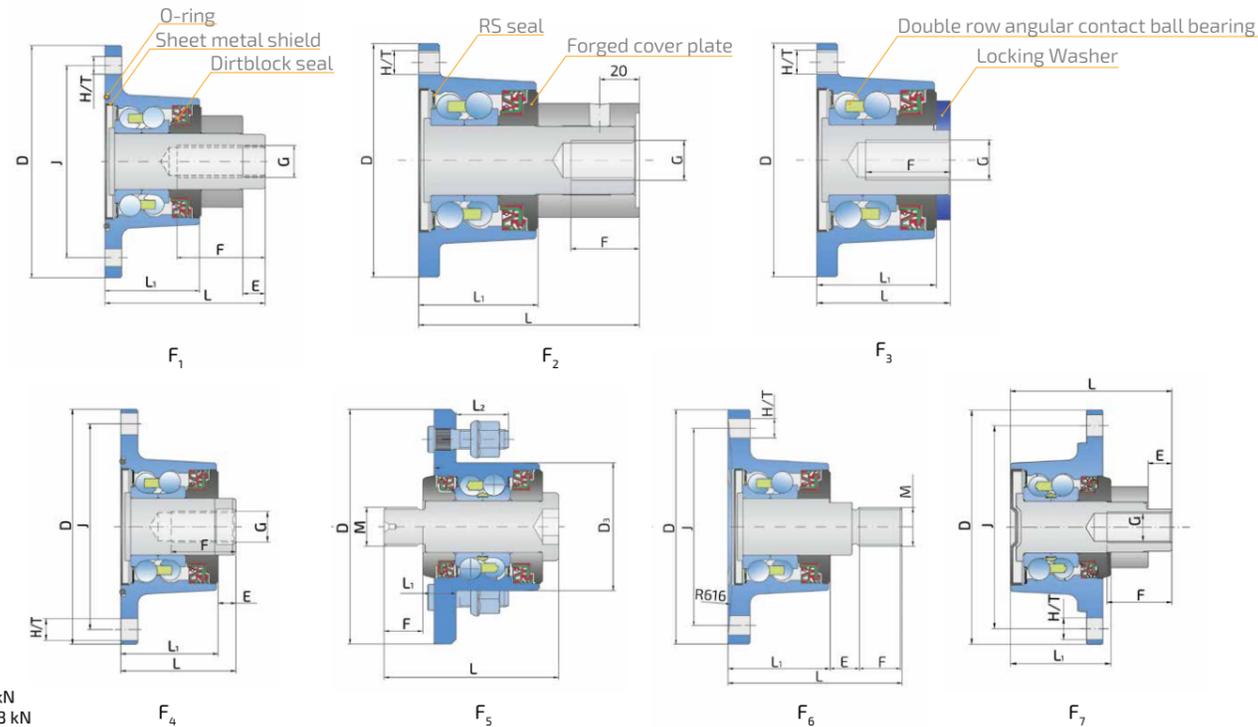
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL50A AND IL50B

INTEGRATED FLANGE, MAINTENANCE-FREE BEARING FOR INDEPENDENT DISCS



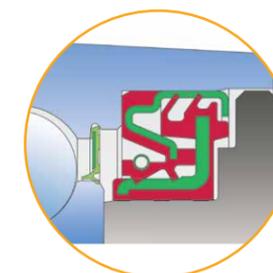
C = 60 kN
C₀ = 45.8 kN

IL50A and IL50B	J	D	D ₁	D ₂	H/T	d	c	M	G	L	L ₁	E	F	kg	Fig.
IL50A-98/3T-M20-10.Z *	98	117	57	-	3xM12	-	-	-	M20	111	60	-	32	3.19	2
IL50A-98/3T-M20-R5 *	98	117	-	-	3xM12	35	32.5	-	M20	67	60	-	42	2.34	3
IL50A-120/4H-M20 *	120	145	57	-	4x11	34	31	-	M20	100	60	14	55	3.23	1
IL50A-122/6H-M24x2-R616 *	122	145	-	-	6x12	35	32.5	M24x2	-	107.7	63.2	18	26.5	3.01	6
IL50A-127/4H-3/4-16UNF	127	145	-	-	4x13.5±0.7	34.9	31	-	3/4"-16UNF	71	60	11	40	2.70	4
IL50B-108/5T-M24x2-RH	108	145	-	79	5xM12x1.5	-	-	M24x2-RH	-	108	20.5	32.5	24	3.99	5
IL50B-108/5T-M24x2-LH	108	145	-	79	5xM12x1.5	-	-	M24x2-LH	-	108	20.5	32.5	24	3.99	5
IL50B-125.7/4H-3/4-16UNF	125.7	145	-	-	4x13.5	29.75	26.1	-	3/4"-16UNF	99.6	57	14.6	40	3.25	7

*Replacement for IL50S

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Nut torque: 300 Nm.
- Self locking class 8 hex nuts (M22 and M24) with helical spring washer.
- Required tools: Torque wrench hexagon socket: size 19 (Bolts M12x1.25); size 32 (Nut M22); size 36 (Nut M24).



AGRO POINT IL60

MAINTENANCE-FREE BEARING WITH INTEGRATED FLANGE FOR HARSH TILLAGE

PRODUCT DESCRIPTION

AGRO POINT IL60 is designed as a heavy duty option of standard size IL50 for harsh tillage and larger disc diameter.

Combination of larger components and reliable Dirtblock seal provides the hub operating at higher loads and tillage speeds as well.

AGRO POINT IL60 with integrated flange is greased and sealed for the lifetime and with Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- 26% higher load rating comparing to standard hub size IL50.
- 31% larger shaft diameter comparing to standard hub size IL50.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: over 710 mm.



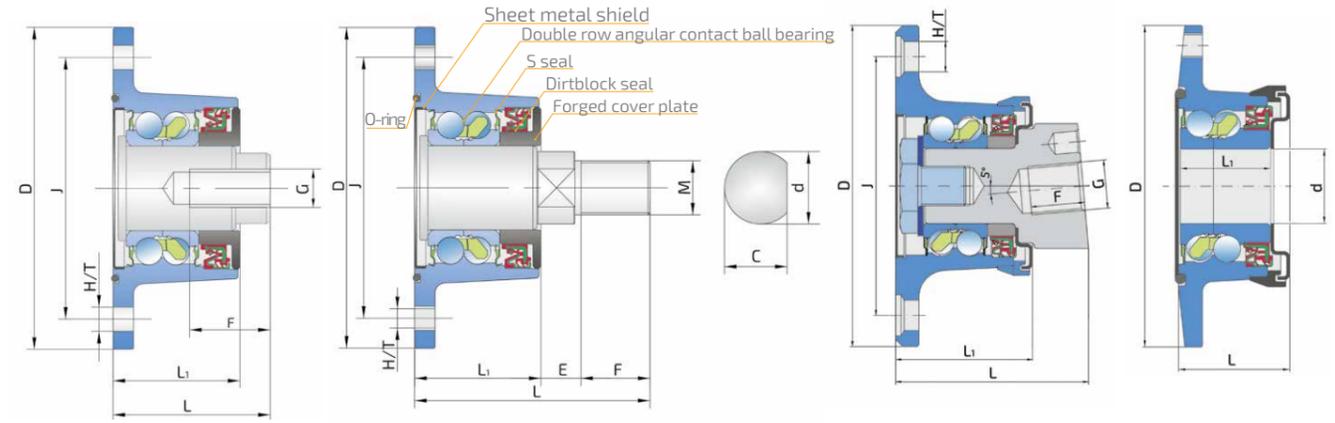
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL60

MAINTENANCE-FREE BEARING WITH INTEGRATED FLANGE FOR HARSH TILLAGE



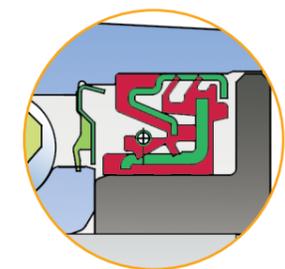
C = 75.86 kN
Co = 66.2 kN

F₁ F₂ F₃ F₄ C = 66.35 kN
Co = 56.5 kN

IL60	J	D	H/T	d	C	M	G	L	L ₁	E	F	kg	Figure
IL60-00-M20x1.5	-	160	blank	31	34.9	-	M20x1.5	78	63	-	40	4.20	1
IL60-120/4H-M20	120	160	4x11	34	31	-	M20	96	82	-	14	4.35	1
IL60-122/6H-M24	122	160	6x12	35	32.5	M24x2	-	106.5	63	16.5	27	4.20	2
IL60-130/6T-M24	130	160	6xM12x1.25	30	28	M24x2	-	117.5	63	24.5	33.5	4.10	2
IL60-130/6T-M27	130	160	6xM12x1.25	36	33.5	M27x2	-	117.5	63	21	33.5	4.40	2
IL60-130/6T-M27x2-122.5	130	160	6xM12x1.25	36	33.5	M27x2	-	122.5	63	25	34.5	4.45	2
IL60-130/6T-M30-03	130	160	6xM12x1.25	40	37	M30x1.5	-	124	63	32	29	4.40	2
IL60-130/6T-M30-112-03	130	160	6xM12x1.25	40	37	M30x1.5	-	112	63	20	29	4.40	2
IL60-133/4H-3/4-16UNF	133.35	160	4x13.5	31	34.9	-	3/4"-16UNF	78	63	-	40	4.10	1
IL60-140/5T-M27	140	160	5xM12x1.25	36	33.5	M27x2	-	117.5	63	21	33.5	4.40	2
IL60-140/5T-B37	140	160	5xM12x1.25	37	-	-	-	53.4	45	-	-	3.41	4
IL60-140/5H-M30	140	160	5x13	35	32.5	M30x1.5	-	110.5	63	19.5	26	4.30	2
IL60-140/6T-M27	140	160	6xM12x1.25	36	33.5	M27x2	-	117.5	63	21	33.5	4.40	2
IL60-145/4H-M27x2-RH-40	145	180	4x17	-	-	-	M27x2-7H right	108	76.5	-	30	5.48	3
IL60-145/4H-M27x2-LH-40	145	180	4x17	-	-	-	M27x2-7H left	108	76.5	-	30	5.48	3
IL60-150/6T-M33-04	150	180	6xM12x1.25	40	37	M33x2	-	116.5	63	20	30	4.94	2

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, bolts M12x1.25, special locking spring washer, nut M22x1.5.



S seal/Dirtblock seal

MOUNTING INSTRUCTIONS

- Bolt M12x1.25 mounting torque: 100 Nm.
- Nut torque: 400 Nm.
- Self locking class 8 hex nuts (M24 and M27) with helical spring washer.
- Required tools: Torque wrench with hexagon socket: size 19 (Bolts M12x1,25); size 36 (Nut M24); size 41 (Nut M27).



AGRO POINT IL70

MAINTENANCE-FREE BEARING WITH INTEGRATED FLANGE FOR HARSH TILLAGE

PRODUCT DESCRIPTION

AGRO POINT IL70 is designed as a heavy duty option of standard size IL60 for harsh tillage and larger disc diameter.

Combination of larger components and reliable Dirtblock seal provides the hub operating at higher loads and tillage speeds as well.

AGRO POINT IL70 with integrated flange is greased and sealed for the lifetime and with Dirtblock sealing option provide extended service life and significantly improved contamination exclusion than the conventional solutions have.

ADVANTAGES

- 42% higher load rating comparing to standard hub size IL60.
- 7% larger shaft diameter.
- Maintenance-free design helps reduce operating costs.
- Corrosion protected flange surface.
- Easy mounting and replacement.

RECOMMENDED WORKING CONDITIONS

- Tractor speed: 5 ÷ 20 km/h;
- Temperature range: -20 ÷ +50°C;
- Disc diameter: over 710 mm.



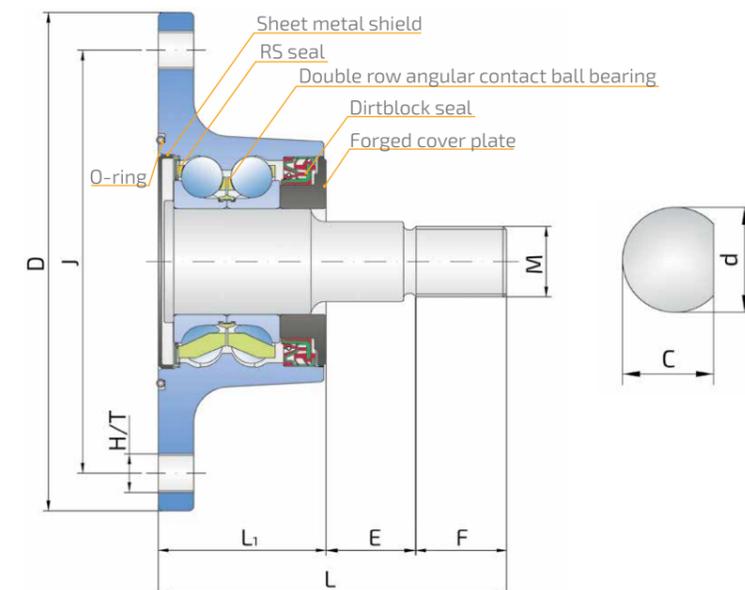
GREATER PROFIT OPPORTUNITIES

- Reduction of assembly and labor costs due to easy mounting and replacement.
- Maximizing profit rate of the Buyer by using of high quality level unit per optimized price.



AGRO POINT IL70

MAINTENANCE-FREE BEARING WITH INTEGRATED FLANGE FOR HARSH TILLAGE

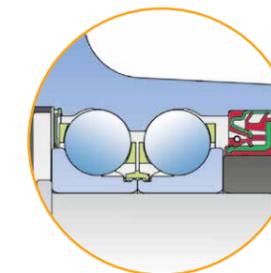


C= 94.45 kN
Co=77.88 kN

IL70	J	D	d	C	H/T	M	L	L ₁	E	F	kg
IL70-180/6H-M33x2	180	212	40	37	6x15	M33x2	137	71	34	32	7.96

ADDITIONAL OPTIONS

- Design flexibility: different hole pattern is available (J parameter, type and number of holes).
- Aftermarket kit is also available optionally: Agro Point bearing, special locking spring washer, nut M30x2.



RS seal/
Dirtblock seal

MOUNTING INSTRUCTIONS

- Nut torque: 400 Nm.
- Self locking class 8 hex nuts (M30 and M33) with helical spring washer.
- Required tools: Torque wrench with hexagon socket: size 46 (Nut M30); size 50 (Nut M33).



FKL HUBS WITH LOCKING SPRING WASHER

ADVANCED HUB TIGHTENING TO THE DISC HARROW

PRODUCT DESCRIPTION

FKL Hubs for seeding and tillage equipment are designed to operate in the most difficult working conditions. The hubs are lubricated for life, sealed and protected against corrosion and therefore does not require any additional maintenance. A complex sealing system protects the hub from penetration of water and all other contaminants at all weather conditions as well as during its entire lifetime.

PRODUCT 3D VIEW



The special FKL spring washer prevents the shaft turning at the nut tightening and due to its spring properties provides 6 tons of axial clamping force.

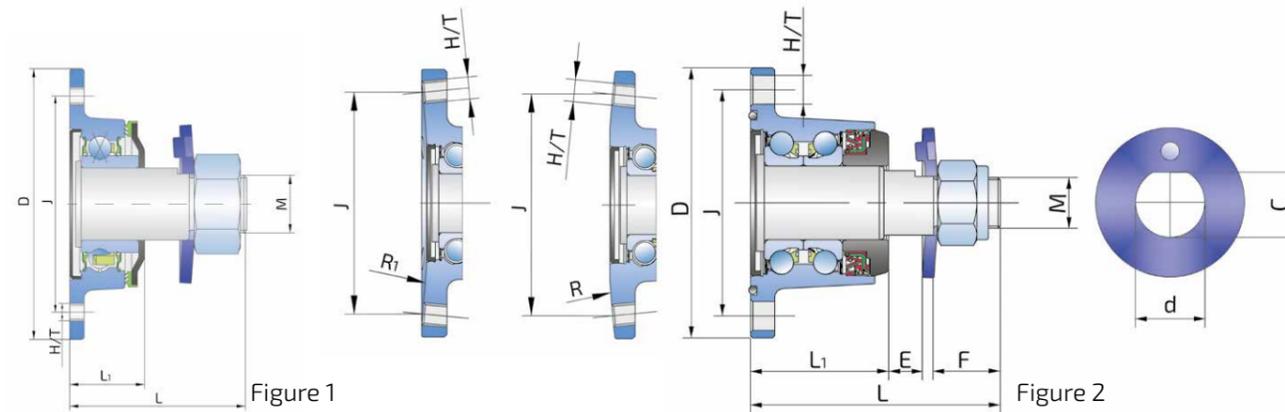


ADVANTAGES

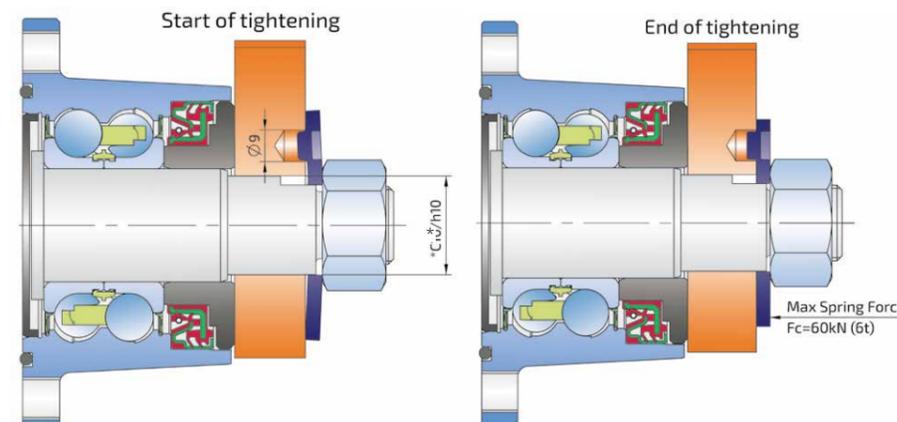
- No "D" shape hole required - only two drilled holes: one hole to fit the shaft diameter and another hole with 9 mm diameter for the washer fitting.
- Machining the Disc Arm with a simple tool.
- Provides sufficient axial force for proper hub operation throughout its lifetime.
- Proper hub installation extends significantly its lifetime.

FKL HUBS WITH LOCKING SPRING WASHER

EFFICIENCY OF SPECIAL TIGHTENING



Designation	J	D	H/T	d	C	M	L	L ₁	E	F	R	R ₁	kg	Figure
IL20-75/4H-M20x1.5-T-44	75	94	4x8.5	25	23	M20x1.5	61	26	15	20	-	-	0.77	1
IL20-75/6T-M20x1.5-T-44	75	94	6xM6	25	23	M20x1.5	61	26	15	20	-	-	0.77	1
IL40-98/4T-M24x2-44	98	117	4xM12x1.25	30	27.5	M24x2	106	60	10	31	-	-	2.38	2
IL40-98/5H-M22-04	98	117	5x12.5	27.95	25.4	M22x1.5	108.5	60	16	29	-	-	2.36	2
IL50-98/6T-M24x2-04	98	117	6xM12x1.75	32	29.6	M24x2	111	60	20	27	-	-	2.83	2
IL50-120/4T-M24x2-04	120	145	4xM10x1.5	30	27.8	M24x2	111	60	20	27	-	-	3.30	2
IL50-120/6T-M24x2-04-R633	120	145	6xM12x1.75	30	27.8	M24x2	129.2	63.2	35	27	-	633	3.61	2
IL50-120/6T-M24x2-04-R633-114	120	145	6xM12x1.75	30	27.8	M24x2	114.2	63.2	20	27	-	633	3.53	2
IL50-120/6T-M24x2-04-R635-149	120	145	6xM12x1.75	30	27.8	M24x2	149.2	63.2	56	27	635	-	3.57	2
IL60-130/6T-M27-44	130	160	6xM12x1.25	35	32.5	M27x2	120	63	25	25.7	-	-	4.32	2
IL60-140/5H-M30-44	140	160	5x13	35	32.5	M30x1.5	110.5	63	16	28	-	-	4.29	2
IL70-180/6H-M33x2-04	180	212	6x15	40	37	M33x2	137	71	28	35	-	-	7.96	2



RECOMMENDATION

* Recommended Shaft and Hole tolerances according to ISO standard are C10/h10. For basic sizes: 28÷40
 C10=+0.194/+0.11
 h10=0/-0.084

MOUNTING INSTRUCTIONS

- The user must maintain the flatness of the disc arm plate within 0.2 mm on both sides. Variation of thickness must be in tolerance according to standards.

Recommended tightening torque for the bolts:

M	M6	M8	M10	M12	M16
Nm	16	28	56	98	175

Recommended tightening torque for nuts for the mounting to the machine frame:

M	M22	M24	M27	M30	M33
Nm	300	300	400	400	400

- Nuts for mounting the hub to the machine frame and the disc connection bolts must be tightened with an appropriate torque.

FKL[®]OO

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