

SEAVES



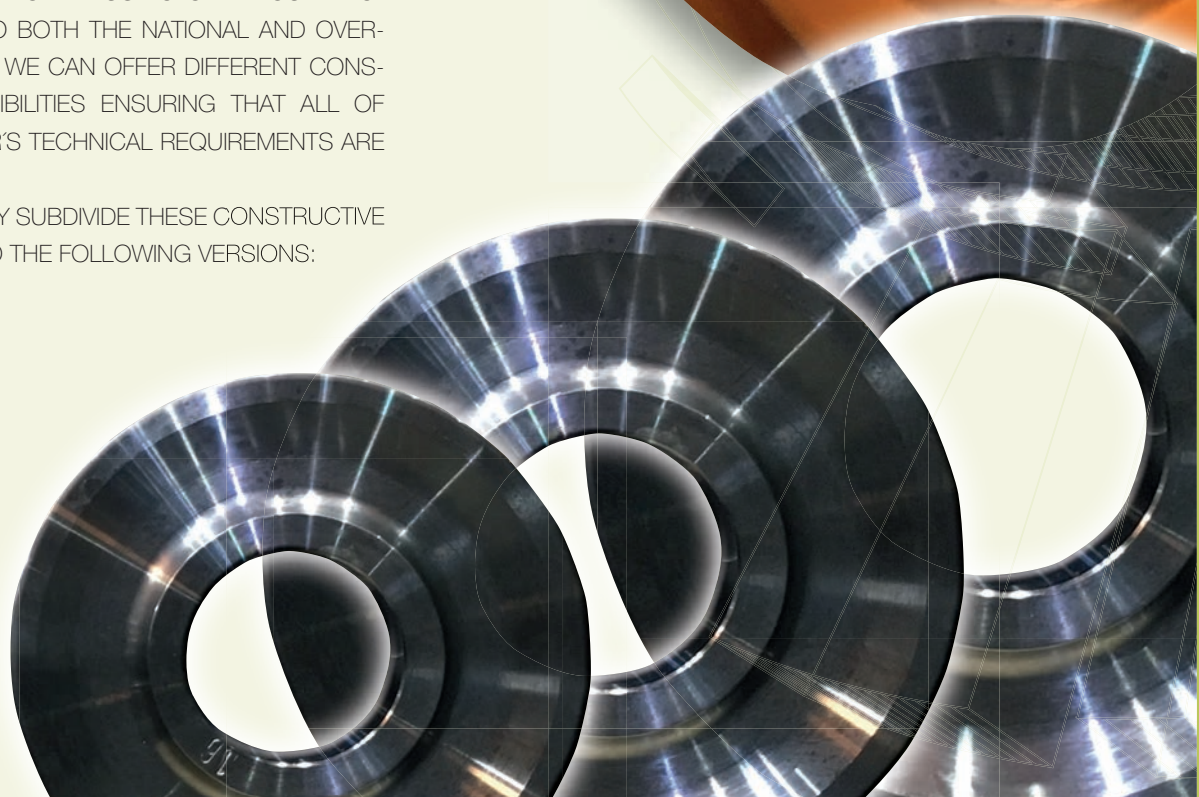
GOSAN PRODUCES OVER 25.000 SHEAVES EACH YEAR WITH AN AVERAGE DIAMETER OF 1.000 MM. THE MAJORITY ARE WELDED **MACHINED TYPES**, I.E., MANUFACTURED FROM ROLLED STEEL (OR FORGED STEEL) AND THEN WELDED AND FINISHED. WE ALSO MAKE **OTHER TYPES OF SHEAVES** SUCH AS PLASTIC SHEAVES AND SOLID OR CAST SHEAVES, ALTHOUGH IN SMALLER NUMBERS.

OUR RANGE OF WELDED MACHINED SHEAVES INCLUDES DIFFERENT **CONSTRUCTIONAL DESIGNS** THAT ADAPT PERFECTLY TO THE DEMANDS OF THE DIFFERENT SECTORS OF THE MARKET FOR HOISTING, TRANSPORT AND MAINTENANCE MACHINERY IN WHICH **GOSAN** IS PRESENT.

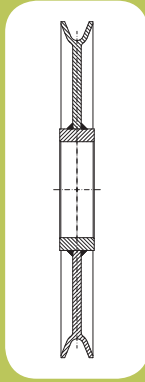
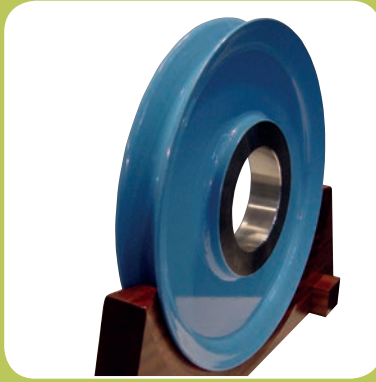
description

OUR EXPERTISE IN THE MANUFACTURE OF WELDED SHEAVES HAS ALLOWED US TO OFFER OUR PRODUCT RANGE TO BOTH THE NATIONAL AND OVERSEAS MARKETS. WE CAN OFFER DIFFERENT CONSTRUCTIVE POSSIBILITIES ENSURING THAT ALL OF OUR COSTUMER'S TECHNICAL REQUIREMENTS ARE SATISFIED.

WE CAN USUALLY SUBDIVIDE THESE CONSTRUCTIVE SOLUTIONS INTO THE FOLLOWING VERSIONS:

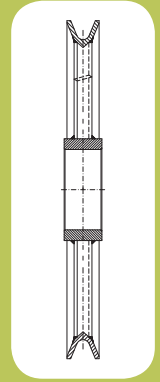


MODEL **A**



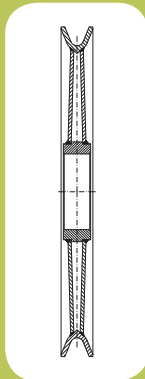
Sheaves made from a plate opened down from the centre with the throat formed by cold forming. Due to their design and construction, they are normally used for small diameters.

MODEL **B**



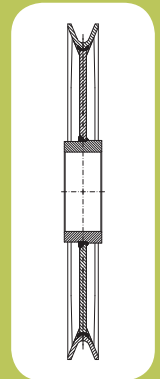
Sheaves produced with a 30% inclination, radii are in an even number and of alternating variable sections according to the diameter. Chosen generally by the group of the machine they are destined for.

MODEL **C**



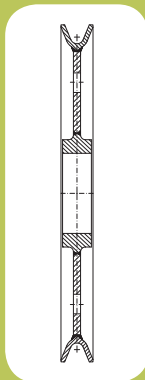
Sheaves made with two convex plates with which a more even stress distribution is achieved. They are of great practical use when dealing with very high starting torques.

MODEL **D**



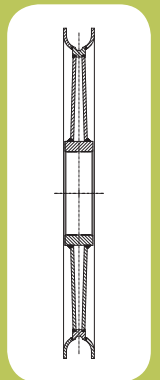
Sheaves made with a lightened central core and lateral stiffeners, mounted in a radial pattern. They are typically used on high responsibility machines.

MODEL **E**



Sheaves made with a central plate and X-form welding between plate and hub.

MODEL **PEAR**



These are sheaves that have their throat designed for the passage of hoisting cable connected with a linking pear. They are formed by two lateral elements welded to a central machined ring for cable passage. The remaining construction features of the sheave are as normal and they can also be produced with radii similar to those of **Model B** or **Model C**.

SPECIAL MODEL



Any type of sheave to suit customer's requirements.

advantages and features

- The sheaves are manufactured according with our customer's requirements and also to the DIN and FEM standards.
- Suppression of casting models with control maintenance, restoration setbacks etc.
- Delivery time is greatly reduced.
- All sheaves are provided completely finished and therefore can be used immediately.
- There is a considerable reduction of weight under equal conditions and depending upon the size, a 30% decrease in weight over a similar cast sheave can be achieved.
- There is a low inertia torque and consequently, a low PD2 with the subsequent advantage of avoiding slippage between sheave and rope, thus reducing sheave throat wear.
- High economic advantages.
- The ring forming the throat is laminated and cold formed. The hardness detailed in figure 1 below, is achieved by this method, using S355J2 material.
- Should a higher groove hardness be required, the figures detailed in figure 2 can be achieved by quenching/tempering.
- With our new carburized process, groove hardness values detailed in figure 3, over 60 HRC, can be obtained.
- Upon request, sheaves can also be produced in stainless steel, aluminium, etc.
- The usual sheave is constructed using the following materials:

Rim	S355J2
Plates, radii, sheave or core	S355J2
Hub	E355

STANDARD GROOVE

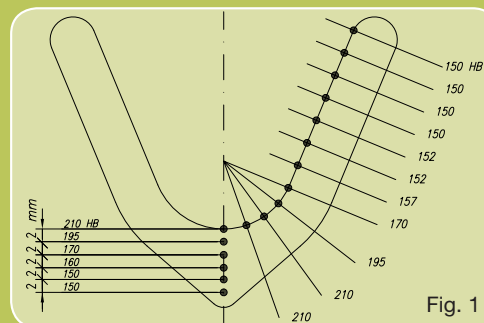


Fig. 1

HARDENED GROOVE

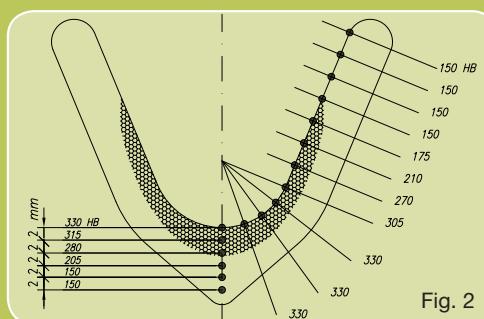


Fig. 2

CARBURIZED AND HARDENED GROOVE

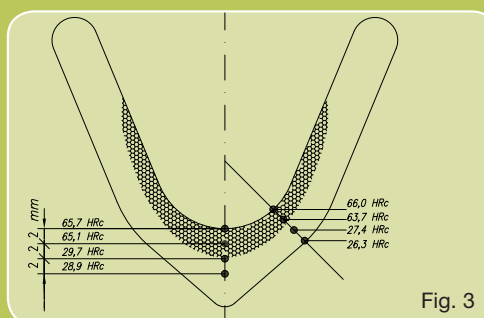


Fig. 3

THE WELDING PROCESS ADDS VALUE TO OUR PRODUCT AND IS ONE OF THE CHARACTERISTICS THAT DIFFERENTIATE TO US WITH OUR COMPETITION.

We are certified according to: - EN 729/ISO 3834 Part. 2.

for the design and manufacture of mechanical components for elevation machinery, transport and maintaining, the enterprise has employed two International welding engineers: - IWE-ES-451.
- IWE-ES-458.

Like aspects to emphasize of our procedures, all of them are qualified ones, are the use of the process of the mechanized SAW, from which we obtain the following advantages:

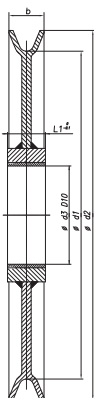
- Superior penetration to other processes, obtaining healthy unions.
- High speed of welding and deposition with a uniform thermic contribution.
- Repetition uniform in the execution, and the perfect adjustment for the parameters of welding.
- Smooth and clean surface finish welds.

Similarly, we understand the Control of Quality as the set of operative actions to the aims proposed by the system of securing of the quality accuracy to satisfy the necessities of our clients.

By starting off with this premise, we made the following controls according to requirements:

- Revision of contract and design before the manufacture.
- Control of the provisions and processes.
- Non-destructive testing.
- Verification of equipment.
- Qualification of all our soldering irons.

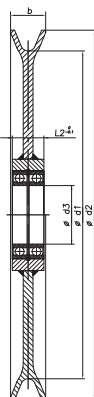
Always, we have understood the importance that the technology of welding components in our products, so we have required the specialized advising of important Centers and Foundations, all is directed to obtain processes with a greater resistance, durability and more goods finished, these being the identity that we have marked for ourselves.



REF.: 030.101 - With bronze bushing

TECHNICAL DATA	SHEAVE N°	Ø WIRE	d1	d2	d3	L1	b
	1	9	225	260	45	78	30
	2	11	280	320	55	88	35
	3	13	315	360	60	88	39
	4	14	355	405	70	88	44
	5	16	400	455	75	108	47
	6	18	450	510	80	108	54
	7	20	500	570	90	118	59

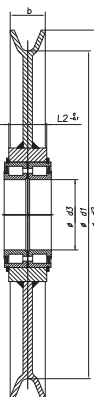
* Under special order, we will be able to produce other measures.



REF.: 030.102 - With ball bearings, form Z1

TECHNICAL DATA	SHEAVE N°	Ø WIRE	d1	d2	d3	BEARING	L2	b
	1	6-7	125	150	25	6205	32	23
	2	7-8	150	175	30	6206	34	24
	3	9-10	180	215	40	6208	38,5	30
	4	11-12	200	240	50	6210	43	34
	5	13	240	285	60	6212	48	39
	6	14-15	280	330	70	6214	52	42
	7	16	290	345	80	6216	56	45
	8	17-18	355	415	80	6216	56	51
	9	20-21	400	460	90	6218	64	66

* Under special order, we will be able to produce other measures.



REF.: 030.103 - With roller bearing, form Y

TECHNICAL DATA	SHEAVE N°	Ø WIRE	d1	d2	d3	BEARING	L2	b
	1	24	430	505	100	5020	54	65
	2	26	470	550	100	5020	54	71

* Under special order, we will be able to produce other measures.

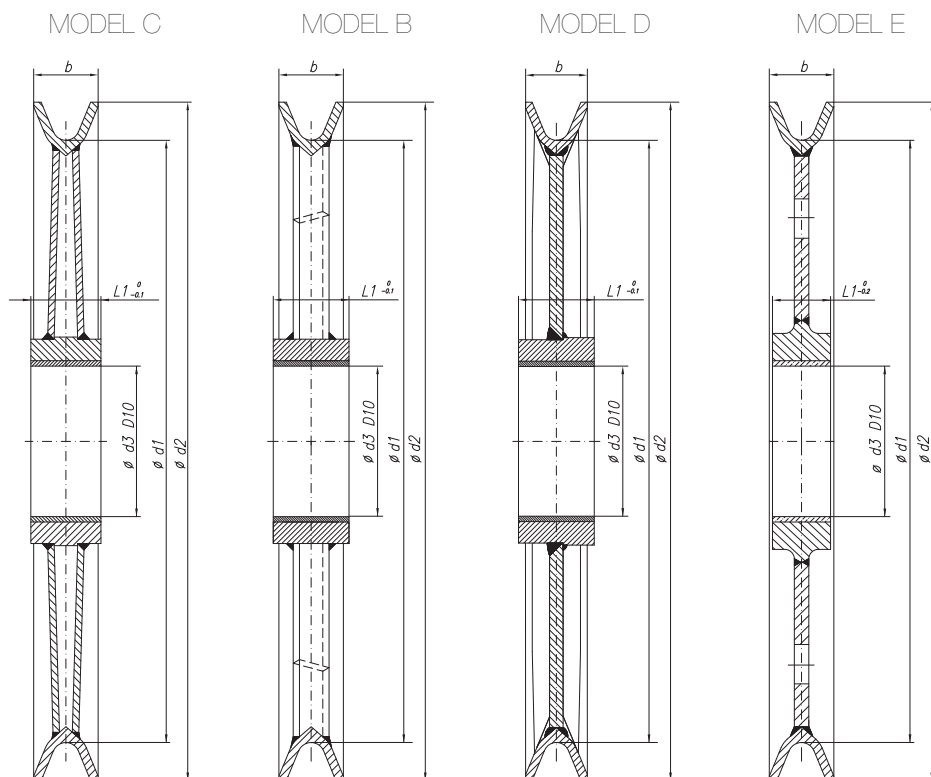
- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: RAL 9005 (other final coatings by request)

DESCRIPTION

SHEAVE MODEL C, B, D and E



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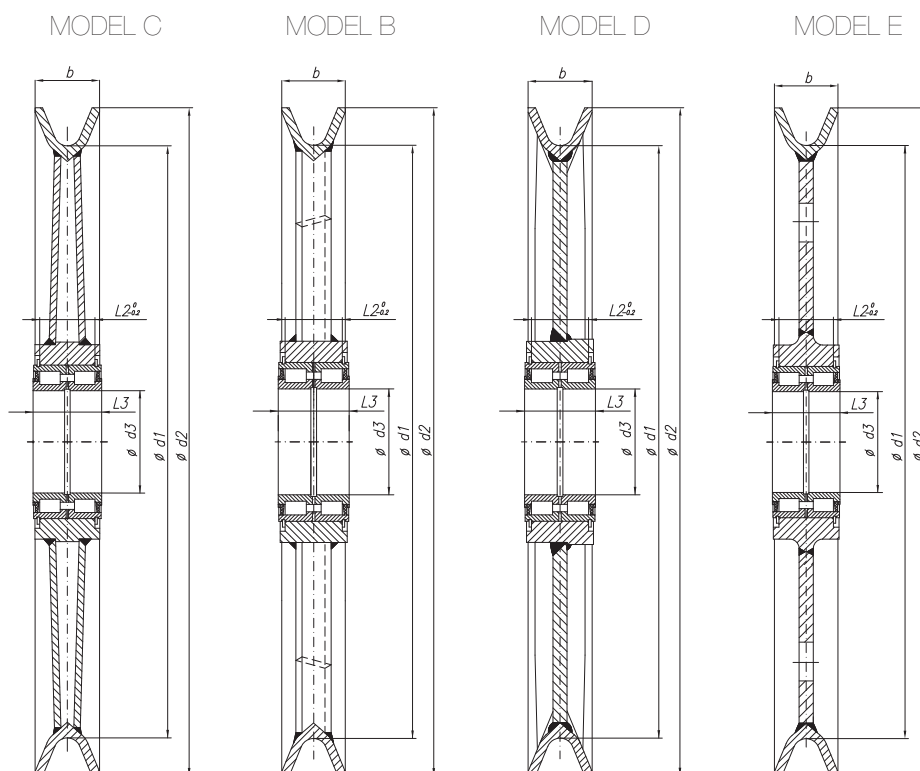
- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Bronze bushing material: CuSn12

DESCRIPTION

REF.: 030.104

TECHNICAL DATA	SHEAVE N°	d1	Ø WIRE	d2	d3	b	L1
	1	400	16	455	75	46	108
	2	450	18	510	80	51	108
	3	500	20	570	90	56	118
	4	560	22	630	100	58	128
	5	560	20	630	140	56	120
	6	630	26	710	110	67	138
	7	630	22	700	150	58	130
	8	710	28	790	120	68	138
	9	710	26	790	170	67	140
	10	800	32	890	130	77	138
	11	800	28	880	180	68	150
	12	900	36	1.010	140	89	138
	13	900	32	990	200	77	160
	14	1.000	36	1.110	220	89	160
	15	1.120	40	1.240	240	98	190
	16	1.250	44	1.380	260	106	190

* Under special order, we will be able to produce other measures.



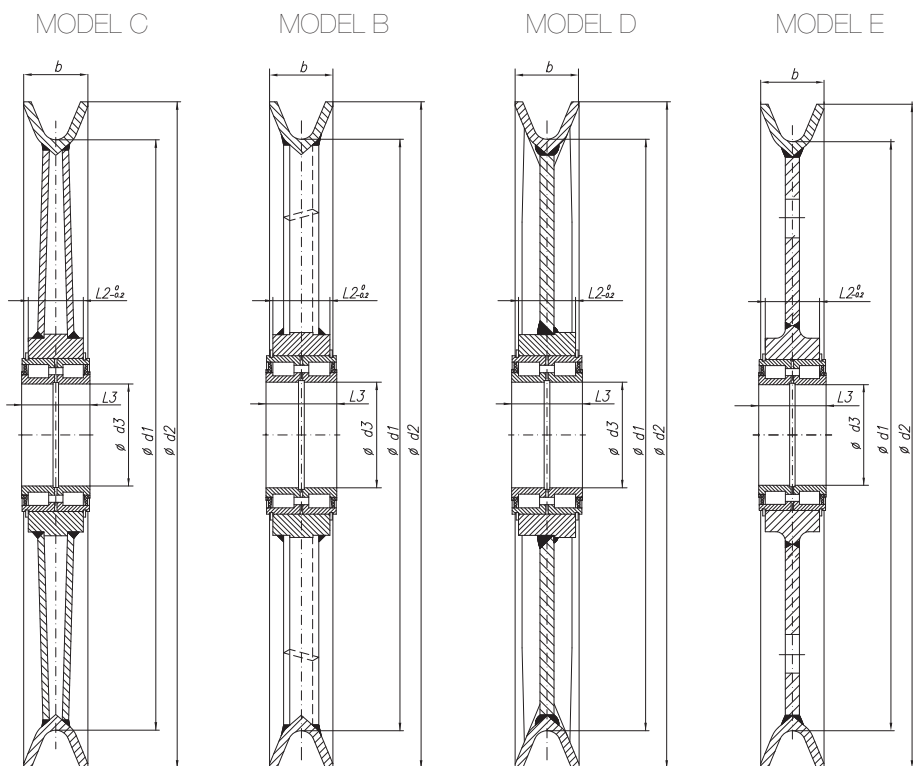
- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Roller bearing NNF serial (SL04)

DESCRIPTION

REF.: 030.105

TECHNICAL DATA	SHEAVE N°	d1	Ø WIRE	d2	d3	b	L2	L3
	1	400	16	455	80	46	49	60
	2	450	18	510	80	51	49	60
	3	500	20	570	90	56	54	67
	4	560	22	630	100	58	54	67
	5	560	20	630	140	56	77	95
	6	630	26	710	110	67	65	80
	7	630	22	700	150	58	81	100
	8	710	28	790	120	68	65	80
	9	710	26	790	170	67	99	122
	10	800	32	890	130	77	77	95
	11	800	28	880	180	68	110	136
	12	900	36	1.010	140	89	77	95
	13	900	32	990	200	77	120	150
	14	1.000	36	1.110	220	89	134	160
	15	1.120	40	1.240	240	98	134	160
	16	1.250	44	1.380	260	106	154	190

* Under special order, we will be able to produce other measures.



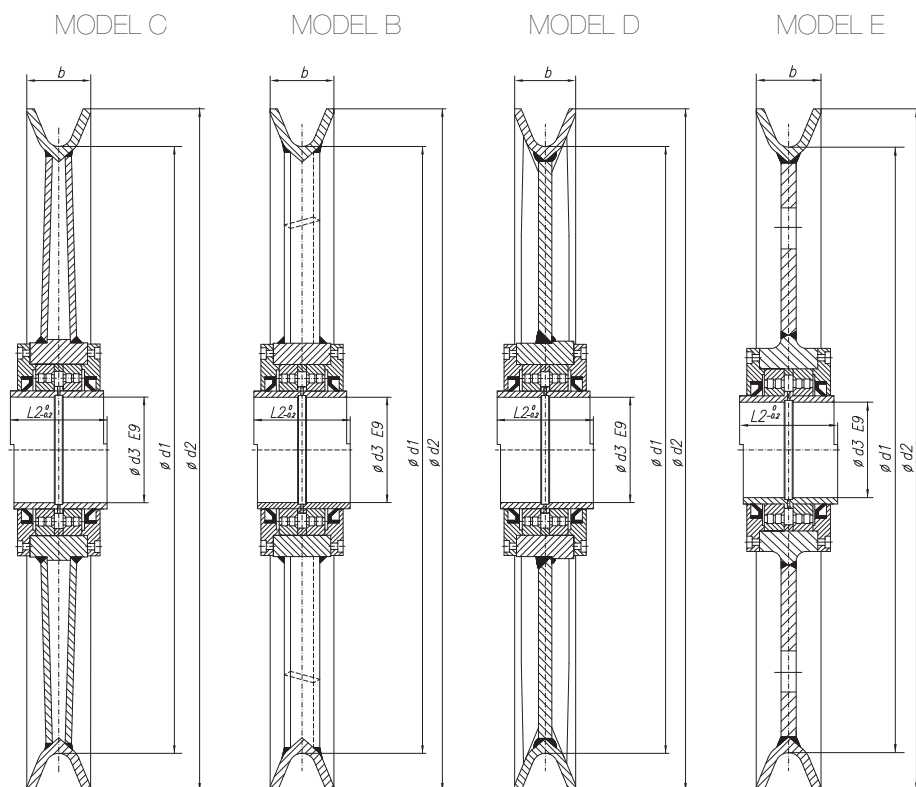
- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Roller bearing NNF serial (SL04)

DESCRIPTION

REF.: 030.106

TECHNICAL DATA	SHEAVE N°	d1	Ø WIRE	d2	d3	b	L2	L3
	1	400	16	455	80	46	49	60
	2	450	18	510	80	51	49	60
	3	500	20	570	90	56	54	67
	4	560	22	630	100	58	54	67
	5	560	20	630	140	56	77	95
	6	630	26	710	110	67	65	80
	7	630	22	700	150	58	81	100
	8	710	28	790	120	68	65	80
	9	710	26	790	170	67	99	122
	10	800	32	890	130	77	77	95
	11	800	28	880	180	68	110	136
	12	900	36	1.010	140	89	77	95
	13	900	32	990	200	77	120	150
	14	1.000	36	1.110	220	89	134	160
	15	1.120	40	1.240	240	98	134	160
	16	1.250	44	1.380	260	106	154	190

* Under special order, we will be able to produce other measures.



- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Roller bearing NNC-V serial

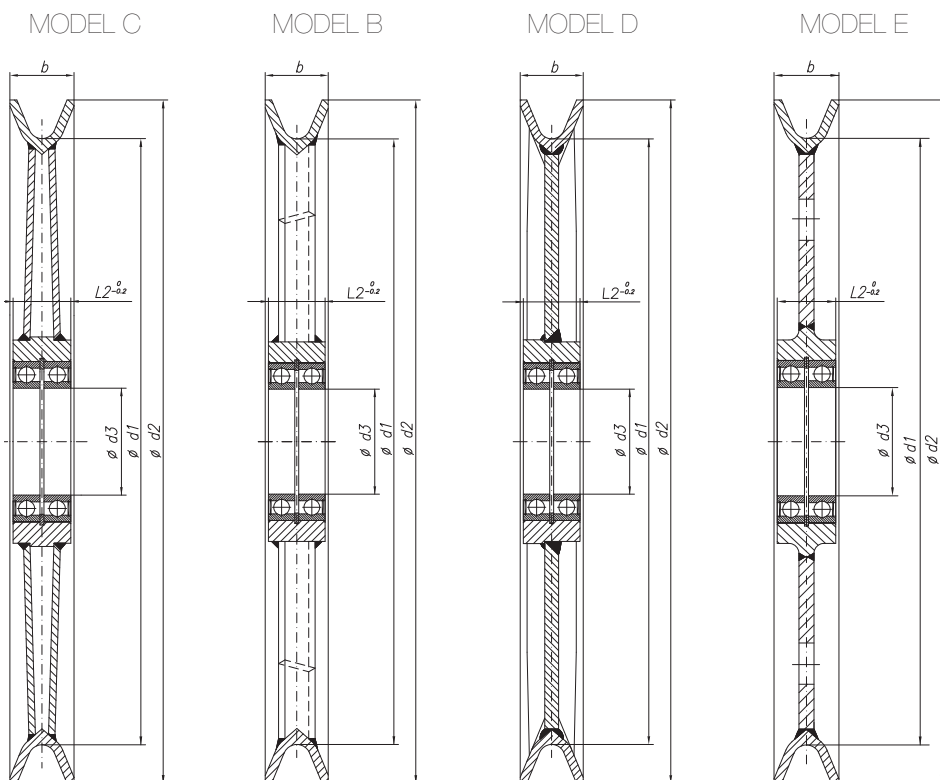
DESCRIPTION

REF.: 030.107

TECHNICAL DATA	SHEAVE N°	d1	Ø WIRE	d2	d3	b	L2
	1	400	16	455	75	46	130
	2	450	18	510	80	51	130
	3	500	20	570	90	56	140
	4	560	22	630	100	58	150
	5	560	20	630	140	56	140
	6	630	26	710	110	67	160
	7	630	22	700	150	58	150
	8	710	28	790	120	68	160
	9	710	26	790	170	72	160
	10	800	32	890	130	90	160
	11	800	28	880	180	80	170
	12	900	36	1010	140	100	160
	13	900	32	990	200	90	180
	14	1.000	36	1.110	220	100	180
	15	1.120	40	1.240	240	112	210
	16	1.250	44	1.380	260	125	210

* Under special order, we will be able to produce other measures.

SHEAVE MODEL C, B, D and E "With ball bearings, form Z1"



- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Ball bearings 6 serial with sealing

DESCRIPTION

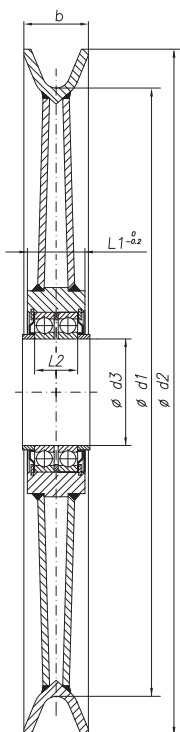
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TECHNICAL DATA

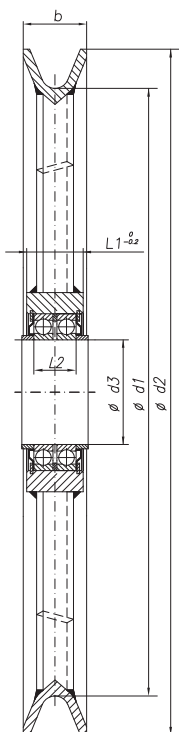
SHEAVE N°	d1	Ø WIRE	d2	d3	b	L2
1	400	16	455	75	46	54
2	450	18	510	80	51	56
3	500	20	570	90	56	64
4	560	22	630	100	58	72
5	630	26	710	110	67	80

* Under special order, we will be able to produce other measures.

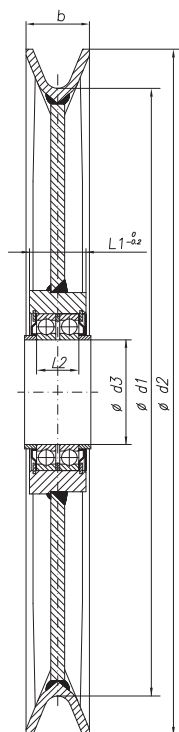
MODEL C



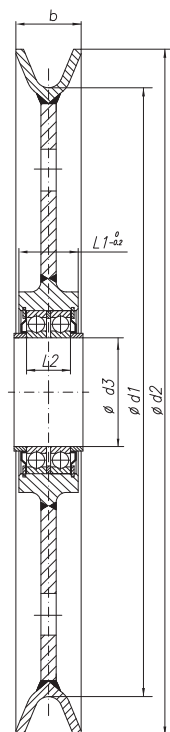
MODEL B



MODEL D



MODEL E



- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355
- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Ball bearings 6 serial

DESCRIPTION

REF.: 030.109

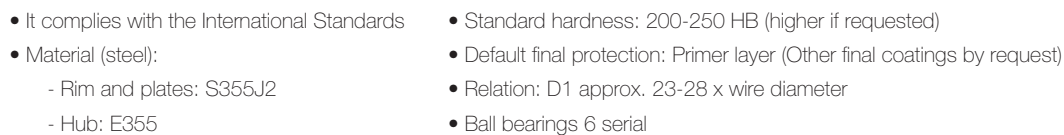
TECHNICAL DATA	SHEAVE N°	d1	Ø WIRE	d2	d3	b	L1	L2
	5	560	20	630	140	56	100	80
	6	630	26	710	110	67	100	80
	7	630	22	700	150	58	100	80
	8	710	28	790	120	68	110	90
	9	710	26	790	170	67	110	90
	10	800	32	890	130	77	110	90
	11	800	28	880	180	68	120	100
	12	900	36	1010	140	89	120	100
	13	900	32	990	200	77	130	110
	14	1.000	36	1.110	220	89	140	120
	15	1.120	40	1.240	240	98	140	120
	16	1.250	44	1.380	260	106	170	140

* Under special order, we will be able to produce other measures.

"With ball bearings, covers and axle bushing"



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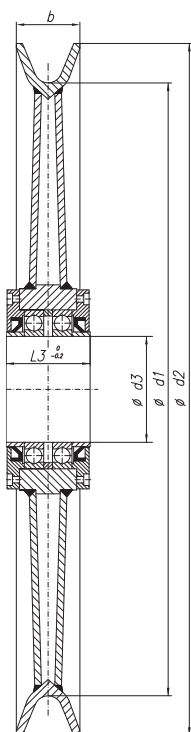
DESCRIPTION

TECHNICAL DATA

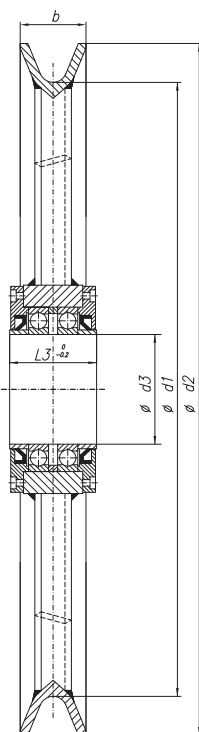
SHEAVE N°	d1	Ø WIRE	d2	d3	b	L2
1	400	16	455	75	52	130
2	450	18	510	80	60	130
3	500	20	570	90	62	140
4	560	22	630	100	70	150
5	560	20	630	140	62	140
6	630	26	710	110	72	160
7	630	22	700	150	70	150
8	710	28	790	120	80	160
9	710	26	790	170	72	160
10	800	32	890	130	90	160
11	800	28	880	180	80	170
12	900	36	1.010	140	100	160
13	900	32	990	200	90	180
14	1.000	36	1.110	220	100	180
15	1.120	40	1.240	240	112	210
16	1.250	44	1.380	260	125	210

* Under special order, we will be able to produce other measures.

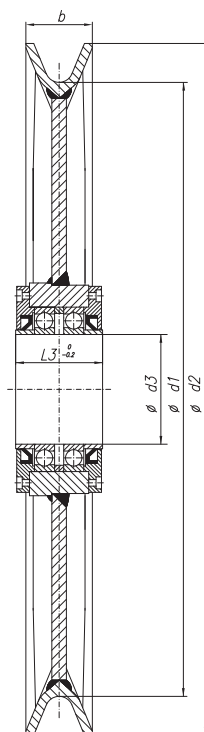
MODEL C



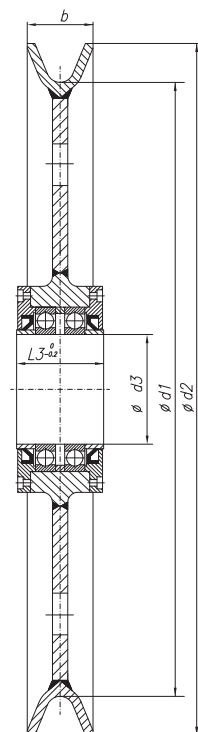
MODEL B



MODEL D



MODEL E



- It complies with the International Standards
- Material (steel):
 - Rim and plates: S355J2
 - Hub: E355

- Standard hardness: 200-250 HB (higher if requested)
- Default final protection: Primer layer (Other final coatings by request)
- Relation: D1 approx. 23-28 x wire diameter
- Ball bearings 6 series

DESCRIPTION

REF.: 030.111

TECHNICAL DATA

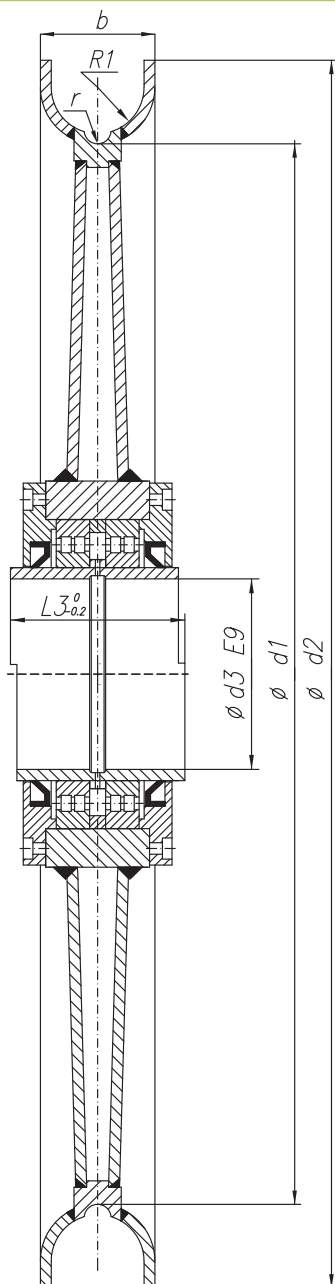
SHEAVE N°	d1	Ø WIRE	d2	d3	b	L3
1	400	16	455	75	52	130
2	450	18	510	80	60	130
3	500	20	570	90	62	140
4	560	22	630	100	70	150
5	560	20	630	140	62	140
6	630	26	710	110	72	160
7	630	22	700	150	70	150
8	710	28	790	120	80	160
9	710	26	790	170	72	160
10	800	32	890	130	90	160
11	800	28	880	180	80	170
12	900	36	1.010	140	100	160
13	900	32	990	200	90	180
14	1.000	36	1.110	220	100	180
15	1.120	40	1.240	240	112	210
16	1.250	44	1.380	260	125	210

* Under special order, we will be able to produce other measures.

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SHEAVE MODEL PEAR

"With roller bearings, covers and axle bushing"



- It complies with the International Standards.
- Material (steel):
 - Rim and plates (or spokes) -S355J2
 - Hub: E355
- Default final protection: primer layer.
(Other final coatings by request).
- Relation: D1 approx. 23-28 x wire diameter.
- Roller bearing NNC-V serial.

DESCRIPTION

REF.: 030.150

SHEAVE N°	d1	Ø WIRE	d2	r	R1	b	L3	d3
1	450	10-12	580	7	40	100	115	80
2	500	13-18	680	10	55	130	135	90
3	630	19-22	850	12,5	65	150	155	100
4	710	22-26	970	14	80	180	185	110
5	800	26-28	1.060	16	80	180	185	120
6	900	28-32	1.210	18	90	210	215	140
7	1.000	32-36	1.360	20	105	240	245	150
8	1.120	37-40	1.480	22	105	240	245	160
9	1.250	40-48	1.610	25	105	240	245	180

* Under special order, we will be able to produce other measures.