



# AGRICULTURE TECHNICAL MANUAL

**PROMETEON**

# THE SOLE COMPANY FULLY FOCUSED ON THE INDUSTRIAL BUSINESS WITH MORE THAN 100 YEARS OF EXPERIENCE.

Prometeon Tyre Group is the only tyre company solely focused on the Industrial sector, for the transport of goods and people, the Agro and OTR segments.

Prometeon has a multi-level offering with a product portfolio that includes the PIRELLI and FORMULA brands, under license, as well as the ANTEO, ERACLE and TEGRYS brands.

Prometeon's PIRELLI branded Agriculture range includes exclusively PIRELLI-branded, high performance products designed to improve field efficiency through sustainable innovation. This is the valuable heritage behind our offer.

Prometeon is focused on the continuous in-house development of innovative technological solutions, which are at the basis of the Prometeon mission to design increasingly performing and at the same time more sustainable products.

Prometeon crafts tyres with the objective to offer the right solution, taking into account the type of vehicle and surfaces, to offer the maximum benefit for the customer. Those parameters have a direct effect on all tyre selection variables, both technical (selection of materials, design, etc.) and financial (operative costs). The combination of application and vehicle type provides the most suitable tyre for each use.

## INDEX

THE TYRE COMPONENTS	pag. 4
SIDEWALL MARKINGS	pag. 6
THE PHP™ AND PHE SERIES: HIGH PERFORMANCE ON AND OFF THE FIELD	pag. 8
PRODUCT RANGE	pag. 9
TECHNICAL TABLES	pag. 13
RIMS AND VALVES	pag. 22
TABLES OF EQUIVALENCE AND CONVERSION	pag. 26

## KEY FIGURES (2021 data)



4 factories (2 in Brazil, 1 in Egypt, 1 in Turkey)

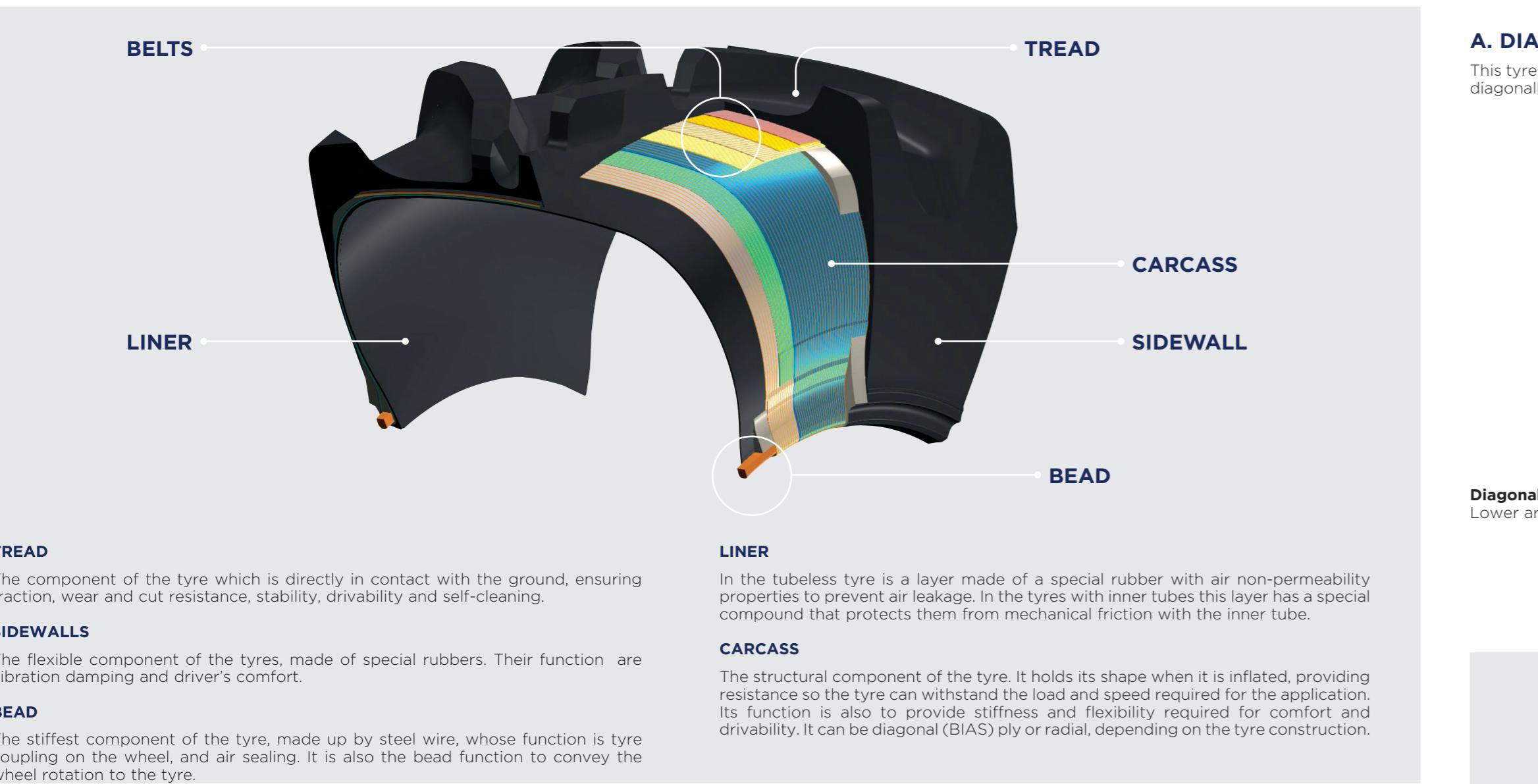


the heart of product innovation is represented by 3 Research and Development Centers (Italy, Brazil, Turkey) and 1 Development Centre in Egypt



7,300 employees around the world

# THE TYRE COMPONENTS



## A. DIAGONAL (BIAS) PLY CONSTRUCTION

This tyre is built with overlapped and cross plies, where the inner cords are arranged diagonally in relation to the tyre radius direction axle.

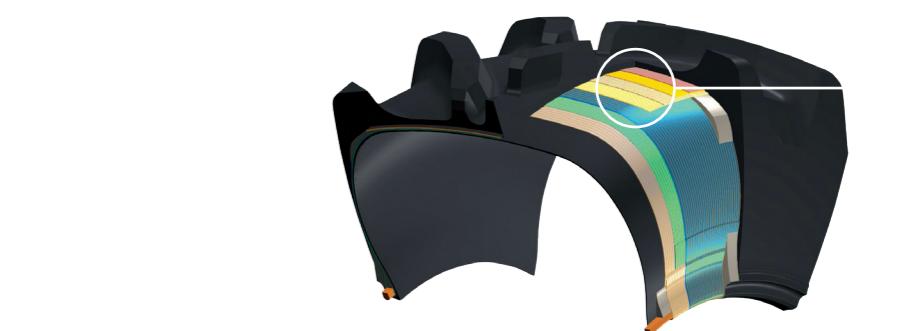


**Diagonal (BIAS) Ply Footprint:**  
Lower area of contact with the ground.



## B. RADIAL CONSTRUCTION

In this model, the cords are arranged following the direction of the tyre radius, with no crossings. The tread stability is acquired through crossed belts, made of cross belts arranged longitudinally. The belts cause an increase of the contact surface, more traction and dimensional stability.



**Radial Footprint:**  
Greater area of contact with the ground.



## ADVANTAGES OF RADIAL TYRES

- Greater traction
- Less soil compaction
- More durability
- Better drivability
- More comfort
- Less fuel consumption

# SIDEWALL MARKINGS

## MARKINGS

Every type of tyre has its own nomenclature, which identifies it. Such information, which is very relevant for the correct use of the product, is printed on the tyre sidewall. Some of which:



- 1 Manufacturer's name
- 2 Tubetype or tubeless
- 3 Maximum load index per tyre for single wheel use
- 4 Speed Symbol
- 5 Nominal width of the section (in inches or millimeters)
- 6 Tyre series (percentage quotient height/width)
- 7 Construction Code
- 8 Rim diameter (in inches)
- 9 Max bead seating pressure
- 10 Rotation direction
- 11 Tyre model

# SIDEWALL MARKINGS

## TYRE SIZES

The tyre size designation is, generally, including nominal section width and tyre inner diameter, and may include nominal aspect ratio (series) between the two measures. The tyres are usually measured in millimeters or inches.

### Example: 710/75R42

**710** = Nominal section width (in mm)  
**75** = Percentage ratio between the section height and the nominal section width  
**R** = Radial construction  
**42** = Rim diameter (in inches)

## LOAD CAPACITY

Represents the maximum load the tyre can withstand in its nominal utilization condition, identified by a load index (numeric), or other symbols representing the tyre load capacity in Kg.

LI	KG	LI	KG	LI	KG	LI	KG	LI	KG	LI	KG	LI	KG	LI	KG	LI	KG	LI	KG
50	190	60	250	70	335	89	580	99	775	108	1000	127	1750	137	2300	148	3150	167	5450
51	195	61	257	80	450	90	600	100	800	109	1030	128	1800	138	2360	149	3250	168	5600
52	200	62	265	81	462	91	615	101	825	110	1060	129	1850	139	2430	150	3350	169	5800
53	206	63	272	82	475	92	630	102	850	120	1400	130	1900	140	2500	160	4500	170	6000
54	212	64	280	83	487	93	650	103	875	121	1450	131	1950	141	2575	161	4625	171	6150
55	218	65	290	84	500	94	670	104	900	122	1500	132	2000	142	2650	162	4750	172	6300
56	224	66	300	85	515	95	690	105	925	123	1550	133	2060	143	2725	163	4875	173	6500
57	230	67	307	86	530	96	710	106	950	124	1600	134	2120	144	2800	164	5000	174	6700
58	236	68	315	87	545	97	730	106	950	125	1650	135	2180	145	2900	165	5150	175	6900
59	243	69	325	88	560	98	750	107	975	126	1700	136	2240	146	3000	166	5300	176	7100

## SPEED CODE

Shows the maximum speed, which the tyre can be subject to load corresponding to its load index, under conditions of service specified by the tyre manufacturer.

SPEED SYMBOL	SPEED (km/h)
A1	5
A2	10
A3	15
A4	20
A5	25
A6	30

SPEED SYMBOL	SPEED (km/h)
A7	35
A8	40
B	50
C	60
D	65
E	70

## TECHNICAL TABLE LEGEND

### Section Width (mm)

The linear distance between the outsides of the sidewalls of an inflated tyre excluding elevations due to labelling (marking), protective bands or ribs.

### Outer diameter (mm)

The diameter of an inflated tyre at the outermost surface of the tread

### Static loaded radius (mm)

The distance between wheel centre and road surface referring to a tyre inflated and loaded at reference values under static conditions

### Rolling circumference (mm)

The distance covered in one complete revolution of the tyre at reference load and pressure

# THE PHP™ AND PHE SERIES: HIGH PERFORMANCE ON AND OFF THE FIELD.

Prometeon's Agricultural tyres are designed keeping farmers and soil preservation at the center of our product development.

Prometeon's Premium PIRELLI branded tyres provide less soil compaction, for a sustainable efficiency both on the field and on the road.

The PHP™ and the new PHE Series stand out for their excellent traction, outstanding balance between operational efficiency in the field, high mileage on the road and low fuel consumption. They feature an excellent lifespan and even wear of the lug surfaces for a maximum yield.

Both PHP™ and PHE product specifications for Europe have been designed to offer the best performances in the fields while delivering an optimal road behavior in terms of comfort and tread wear.

The result is maximum driving safety and vehicle stability, even in the harshest conditions.

## GREEN PERFORMANCE "ECO IMPACT"



**ENERGY™ EFFICIENT:** radial tyres contribute to reducing the consumption of fuel and CO2 emissions.



**CLEAN AIR:** produced using materials that reduce environmental impact.



**HIGH DURABILITY:** the rubber compound developed for Europe has an outstanding performance in terms of lifetime.



## PRODUCT RANGE

### PHP™:SERIES

#### POWER AND TECHNOLOGY WALK TOGETHER.

Radial product developed to provide an excellent traction, durability, self cleaning and low compaction, respecting the environment.



#### Fuel saving

In difficult conditions, the highest level of traction is provided by the design optimization of the lug shape, the innovative shoulder (PIRELLI Patent) and the inter-lug area. Self cleaning is outstanding. Good traction together with a lower rolling resistance allow significant fuel saving.



#### Longlasting

Specific tread design and lug geometry, together with a new generation of compounds, give PHP™ excellent performance in terms of long life and regular wear, giving a significant contribution to reduce operating costs.



#### Less soil compaction

The real dimension of the footprint ensures less pressure on the ground and the flexibility of the casing provides good damping of the vertical forces, helping to ensure a maximum yield.



#### Safety and comfort for the driver

The sidewall profile and structure have been studied for balancing vertical and lateral stiffness. The PHP™ tread pattern has been designed using the most advanced CAD systems in order to deeply analyze footprint shape, contact pressure map and stress/strain analysis on the lugs. The driver enjoys the best handling and comfort.



#### Torque transmission

As PHP™ is made to fit the heaviest tractors, the bead area geometry is designed for a perfect torque transmission avoiding rim slippage. It also allows an easy fitting on the rim.

## PRODUCT RANGE

### PHP™:SERIES



RIM  
DIAMETER      SIZE      LOAD AND  
SPEED INDEX      SERIE

TRACTOR	24	320/85R24	122A8 (122B)	PHP:85
	26	380/85R24	131A8 (131B)	PHP:85
28	750/65R26	166A8 (166B)	PHP:65	
	460/85R26	143A8 (143B)	PHP:85	
	380/85R28	133A8 (133B)	PHP:85	
	420/70R28	133D	PHP:70	
	420/85R28	139A8 (139B)	PHP:65	
	480/65R28	136D	PHP:65	
	480/70R28	140D	PHP:70	
	540/65R28	142D	PHP:65	
	600/65R28	154D	PHP:65	
	420/85R30	140A8 (140B)	PHP:85	
30	460/85R30	145A8 (145B)	PHP:85	
	480/70R30	147D	PHP:70	
	540/65R30	150D	PHP:65	
	600/70R30	158D	PHP:70	
	460/85R34	147A8 (147B)	PHP:85	
	480/70R34	143D	PHP:70	
	600/65R34	157D	PHP:65	
	600/70R34	160D	PHP:70	
	34			

RIM  
DIAMETER      SIZE      LOAD AND  
SPEED INDEX      SERIE

NARROW	1N	320/85R36	128A8(B)	PHP:1N
		320/90R46	157A8(B)	PHP:1N
		380/90R46	157A8(B)	PHP:1N
	IF	IF380/80R38	155D	PHP:1N
		IF380/90R46	157D	PHP:1N

### PHE:SERIES



RIM  
DIAMETER      SIZE      LOAD AND  
SPEED INDEX      SERIE

TRACTOR	38	400/75R38	138D	PHE:75
		460/85R38	149A8 (149B)	PHE:85
		520/70R38	150D	PHE:70
		520/85R38	155A8 (155B)	PHE:85
		580/70R38	155D	PHE:70
		600/65R38	153D	PHE:65
		650/65R38	157D	PHE:65
		650/85R38	173 D	PHE:85
		710/70R38	171D	PHE:70
		800/70R38	178D	PHE:70

RIM  
DIAMETER      SIZE      LOAD AND  
SPEED INDEX      SERIE

HARVESTER	26	750/65R26	166A8 (166B)	PHE:65
		650/75R32	172D	PHE:75
		800/65R32	172A8 (172B)	PHE:1H
	1H	900/60R32	176A8(B)	PHP:1H

## PRODUCT RANGE

### PHE:SERIES



#### BEST EFFICIENCY IN THE FIELD AND ON THE ROAD.

Radial IF (Increased Flexion) tyre designed to provide an excellent traction and low compaction to High Power Tractors (>=300HP), reducing operational costs and environment impacts, maximizing comfort.



##### Optimal traction

The thicker lug geometry and robust tread design allow an optimal self-cleaning and traction, for an increased productivity and reduced operational costs.



##### Extra Mileage

The new tread compound provides low tread wear, perfect for long operations even in the harshest conditions.



##### Sidewall Resistance

The new sidewall profile with specific rubber layers enhances fatigue resistance and promotes resistance in high flexion applications allowing handling and comfort to reach the highest levels.



##### Enhanced handling and comfort

Outstanding balance between operational efficiency in the field and on the road: the new carcass structure provides maximized comfort and safety for the driver.

RIM  
DIAMETER      SIZE      LOAD AND  
SPEED INDEX      SERIE

IF TRACTOR	34	IF650/65R34	161D	PHE:65
				42





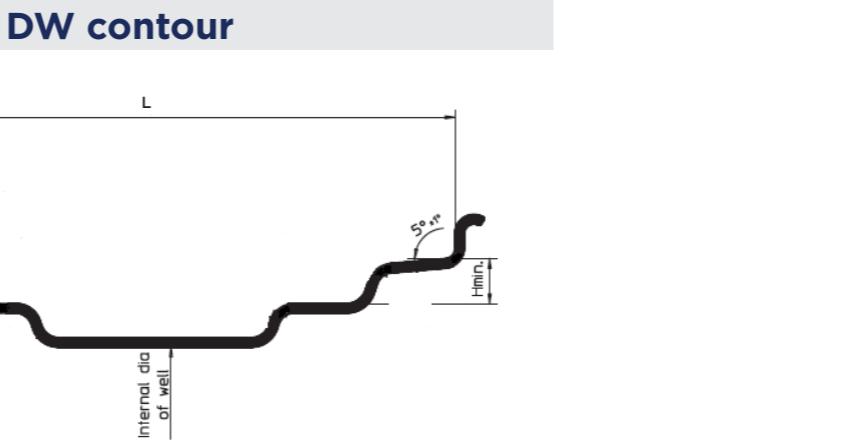
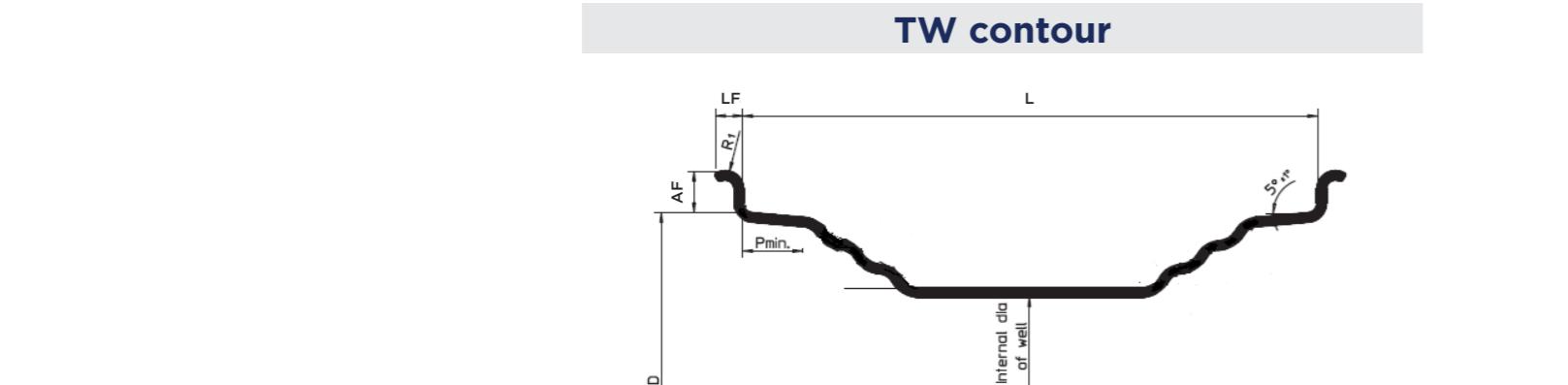
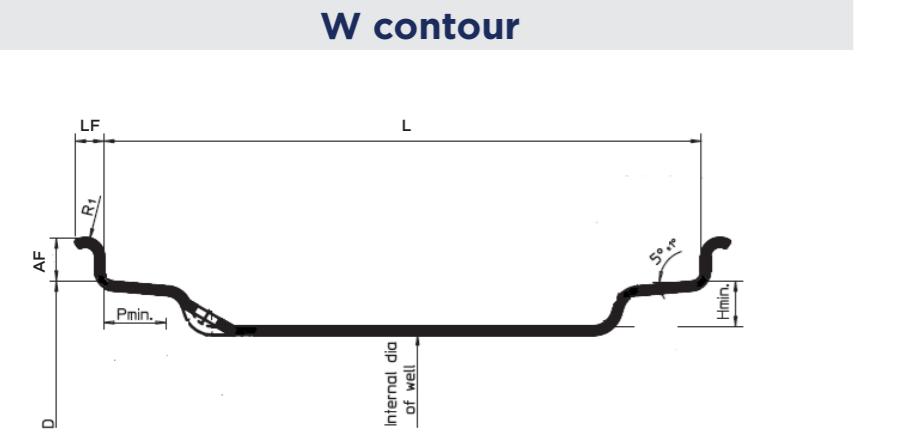






# RIMS AND VALVES

## Rims



# RIMS AND VALVES

NOMINAL DIAMETER CODE	TYPE	DIMENSIONS (mm)		
		SPECIFIED DIAMETER D	INTERNAL DIAMETER OF WELL	TOLERANCES (mm)
16	W	405,6	352,2	+/- 1,0
18	W	462,0	408,5	
20	W	512,8	459,3	
24	DW;TW	614,4	510,1	
24	W	614,4	560,9	
26	DW;TW	665,2	560,9	
26	W	665,2	611,7	+/- 1,5
28	DW;TW	716,0	611,7	
28	W	716,0	662,5	
30	DW;TW	766,8	662,5	
30	W	766,8	713,3	
32	DW;TW	817,6	713,33	
32	W	817,6	764,1	
34	DW;TW	868,4	764,1	+/- 2,0
34	W	868,4	814,9	
36	DW;TW	919,2	814,9	
36	W	919,2	865,7	
38	DW;TW	970,0	865,7	
38	W	970,0	916,5	
40	DW;TW	1020,8	916,5	
40	W	1020,8	967,3	
42	DW;TW	1071,6	967,3	
42	W	1071,6	1018,1	
44	DW;TW	1122,4	1018,1	
44	W	1122,4	1068,9	
46	DW;TW	1173,2	1068,9	+/- 3,0
46	W	1173,2	1119,7	
48	DW;TW	1224,0	119,7	
48	W	1224,0	1170,5	
50	DW;TW	1274,8	1170,5	
50	W	1274,8	1221,3	
52	DW;TW	1325,6	1221,3	
52	W	1325,6	1272,1	
54	DW;TW	1376,4	1272,1	
54	W	1376,4	1322,9	

# RIMS AND VALVES

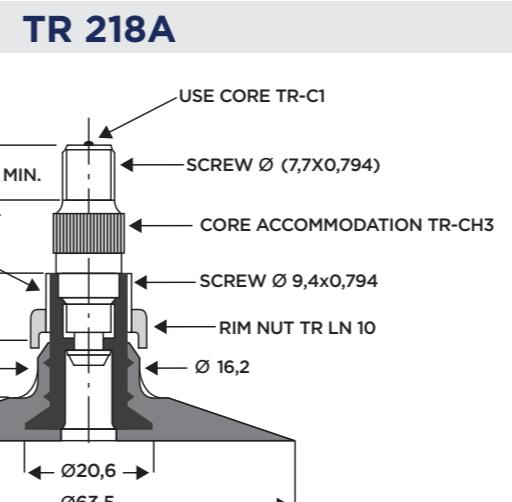
RIM CONTOUR	DIMENSIONS (mm)							
	L		AF ±1	LF		P min	H min	R1
	min	max		min	max			
W6	152,5	± 2,5	22,5	10	14,5	23,5	20,5	9,5
W7	178	± 2,5	22,5	10	14,5	23,5	20,5	9,5
W8	203	± 2,5	22,5	10	14,5	23,5	20,5	9,5
W9	228,5	± 2,5	25,5	11,5	18	27	20,5	11
W10	254	± 2,5	25,5	11,5	18	27	20,5	11
W11	279,5	± 2,5	25,5	11,5	18	27	20,5	11
W12	305	± 2,5	25,5	11,5	18	27	20,5	11
W13	330	± 2,5	25,5	11,5	18	27	20,5	11
W8L	203	± 2,5	25,5	11,5	18	27	20,5	11
W10L	254	± 2,5	25,5	11,5	18	27	20,5	11
W14L	355,5	± 5	25,5	11,5	18	27	20,5	11
W15L	381	± 5	25,5	11,5	18	33	20,5	11
W16L	406,5	± 5	25,5	11,5	18	33	20,5	11
W18L	457	± 5	25,5	11,5	18	33	20,5	11
DW10	254	± 2,5	25,5	11,5	18	27	20,5	11
DW11	279,5	± 2,5	25,5	11,5	18	27	20,5	11
DW12	305	± 2,5	25,5	11,5	18	27	20,5	11
DW13	330	± 2,5	25,5	11,5	24	27	20,5	11
DW13L	330	± 5	25,5	11,5	24	36,5	20,5	11
DW14L	355,5	± 5	25,5	11,5	24	36,5	27	11
DW15L	381	± 5	25,5	16	-	36,5	27	11
DW16L	406,5	± 5	25,5	16	-	36,5	27	11

(1) DW-B rims replace DW-A rims and can be used with fully interchangeability

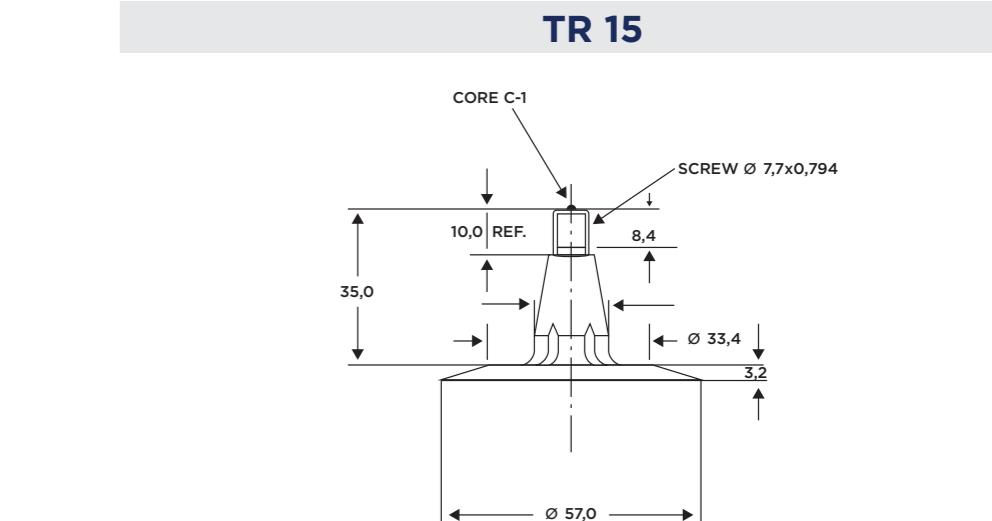
RIM CONTOUR	DIMENSIONS (mm)							
	L		AF ±1	LF		P min	H min	R1
	min	max		min	max			
DW18L	457	± 5	25,5	16	-	36,5	27	11
DW20B (1)	508	± 6,5	29	21	-	36,5	27	15
DW21B (1)	533,5	± 6,5	29	21	-	36,5	27	15
DW23B (1)	584	± 6,5	29	21	-	36,5	27	15
DW24B (1)	609,5	± 6,5	29	21	-	36,5	27	15
DW25B (1)	635	± 6,5	29	21	-	36,5	27	15
DW27B (1)	686	± 6,5	29	21	-	36,5	27	15
DW28B (1)	711	± 6,5	29	21	-	36,5	27	15
DW30B (1)	762	± 6,5	29	21	-	36,5	27	15
TW13	330	± 2,5	25,5	11,5	24	27	-	11
TW14L	355,5	± 5	25,5	11,5	24	36,5	-	11
TW15L	381	± 5	25,5	16	-	36,5	-	11
TW16L	406,5	± 5	25,5	16	-	50,5	-	11
TW18L	457	± 5	25,5	16	-	50,5	-	11
TW20B	508	± 6,5	29	21	-	50,5	-	15
TW21B	533,5	± 6,5	29	21	-	50,5	-	15
TW23B	584	± 6,5	29	21	-	50,5	-	15
TW24B	609,5	± 6,5	29	21	-	50,5	-	15
TW25B	635	± 6,5	29	21	-	50,5	-	15
TW27B	686	± 6,5	29	21	-	50,5	-	15
TW28B	711	± 6,5	29	21	-	50,5	-	15
TW30B	762	± 6,5	29	21	-	50,5	-	15

# RIMS AND VALVES

## Valves

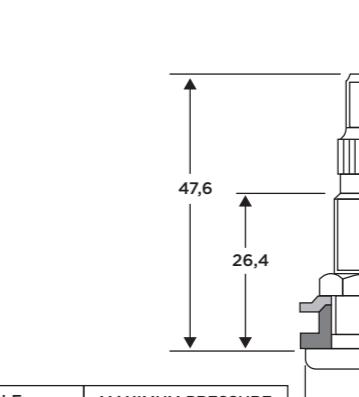


**VALVES FOR TUBELESS TYRE FOR AGRICULTURAL USE**



VALVE	Ø RIM HOLE	MAXIMUM PRESSURE
TR-618A	15,9	1035 kPa (150 lbf/in²)

Note: recommended torque for valve assembly: 52-63 kg.cm





December 2021 edition. Prometeon Tyre Group S.r.l. reserves the right to modify the contents of this publication without prior notice.

Copyright © 2021 Prometeon Tyre Group S.r.l.  
The PIRELLI logo and PHP™ are trademarks used by Prometeon Tyre Group under license.

## Follow us

---



[prometeontyregroup](#)



Prometeon  
Tyre Group



Prometeon Tyre Group



Prometeon  
Tyre Group

Discover more on [prometeon.com](#)

 **PROMETEON**

Tyre Solutions for Professionals