

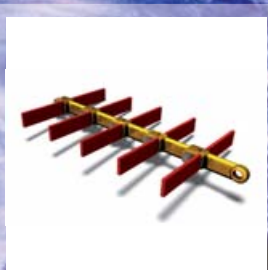


CATALOGO GENERALE GENERAL CATALOGUE

CATENE MAGLIE STAMPATE - CATENE RASCHIANTI A MAGLIE STAMPATE
CHAINS FORGED LINKS - *SCRAPER CHAINS FORGED LINKS*



CATENE MECCANICHE - CATENE RASCHIANTI A PIASTRE DIRITTE
MECHANICAL CHAINS - *SCRAPER CHAINS STRAIGHT SIDEPLATES*



To link for passion



To link for passion

A Maria Luisa nel vivo ricordo dei tuoi cari
In memory of our dearly beloved Maria Luisa



Cav. Giuseppe Vismara (1922 - 2008)



PROFILO AZIENDALE



COMPANY PROFILE

Manifattura Catene Viganò M.C.V. SpA nasce nel 1962 dall'intuizione e dalla tenacia del suo fondatore Cav. Giuseppe Vismara. 50 anni dopo la MCV è una azienda affermata, ed è punto di riferimento a livello mondiale nel settore delle catene industriali.

La passione per il lavoro che il fondatore Cav. Vismara ha saputo trasmettere a tutti i collaboratori viene sottolineata nel motto "To Link for Passion", che MCV è orgogliosa di esibire vicino al tradizionale logo aziendale. La filosofia MCV, soddisfare le esigenze del cliente curando ogni dettaglio e proponendo soluzioni con un rapporto qualità prezzo estremamente conveniente, è stata perseguita negli anni portando MCV a raggiungere elevatissimi traguardi nella progettazione, costruzione e commercializzazione di catene industriali ed accessori. La gamma di produzione è molto vasta e comprende catene a maglie stampate, catene meccaniche per trasmissione e trasporto, catene per trazione e accessori. La produzione delle catene avviene completamente in Italia presso l'unità produttiva a Viganò, a cui si è aggiunta di recente la nuova unità produttiva di Missaglia. I processi produttivi sono certificati dal 1997 secondo la norma UNI EN ISO 9001, e particolare cura è prestata alla qualità sia del prodotto sia del servizio fornito.

Manifattura Catene Viganò M.C.V. SpA was founded in 1962 for the intuition and the tenacity of its founder Mr. Giuseppe Vismara.

50 years after MCV is a well established company and a world wide point of reference in the field of industrial chains. The passion for the work that the founder Mr Giuseppe Vismara has managed to convey to all his cooperators is emphasized by the motto "To Link for Passion", which MCV is proud to present near to the traditional corporate logo.

MCV philosophy to meet customer requirements taking care of every detail and offering solutions at very good quality/price ratios has been pursued in years leading MCV to reach very high goals in design, construction and sale of industrial chains and accessories.

The range of production is very wide comprising forged steel scraper chains, mechanical chains for transmission and conveying, traction chains and accessories.

The chains are manufactured entirely in Italy at the production site in Viganò to which the new production unit in Missaglia has been recently added.

The manufacturing processes are certified since 1997 according to the Norm UNI EN ISO 9001, giving special care to product and service quality.



Presenza globale

MCV è una azienda del cuore italiano ma oggi fortemente orientata all'estero.

Negli ultimi anni la società si è strutturata commercialmente attraverso una rete di distributori e rivenditori che coprono a livello capillare Italia, Europa, Asia, Americhe, Australia e Africa.

Global presence

MCV is an "Italian heart company " today strongly oriented towards overseas.

In recent years it received a renewed commercial structure supported by a network of distributors covering widespread Italy, Europe, Asia, America and Australia.

PROFILO AZIENDALE

COMPANY PROFILE

Sistema qualità e controllo qualità

I prodotti MCV sono conosciuti nel mondo per la elevata qualità e l'ottimo rapporto qualità/prezzo. Questi obiettivi sono stati raggiunti lavorando sulla efficienza produttiva e sul controllo qualità in tutte le fasi del processo. La certificazione UNI EN ISO 9001 attestata attualmente da TÜV, da più di 10 anni supporta lo sviluppo della azienda e garantisce all'esterno la qualità del processo di progettazione e produzione.

Quality system and quality control

The MCV products are known worldwide for their top quality and their high quality/price ratio.

These targets were reached working on the production efficiency and on the quality controls at all process stages.

The UNI EN ISO 9001 certification assigned at present by TÜV, supports has been supporting the company development in design and production quality since more than 10 years.





Ciclo produttivo catene meccaniche *Our production process mechanical chains*



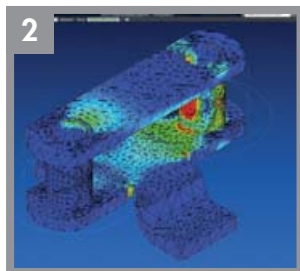
COMPANY PROFILE



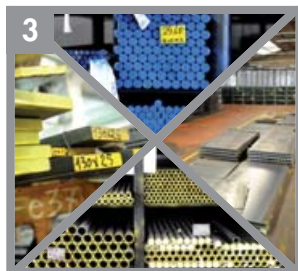
TORNITURA A CONTROLLO NUMERICO
CNC TURNING



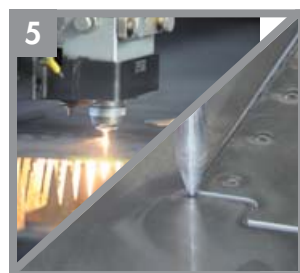
1
UFFICIO TECNICO
TECHNICAL DEPARTMENT



2
PROGETTAZIONE
ENGINEERING



3
MAGAZZINO
WAREHOUSING



TAGLIO LASER/TAGLIO AD ACQUA
LASER/WATERJET CUTTING

PIEGATURA
BENDING

CENTRI DI LAVORO
MACHINING CENTERS

LAVORAZIONI SPECIALI
SPECIALITY MACHINING



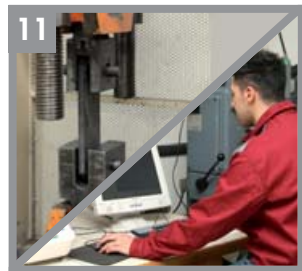
10
TRATTAMENTO TERMICO
HEAT-TREATMENT

CONTROLLO
QUALITÀ
QUALITY
ASSURANCE

SALDATURA
WELDING

ASSEMBLAGGIO
ASSEMBLING

IMBALLAGGIO
PACKAGING





PROFILO AZIENDALE



COMPANY PROFILE



Ciclo produttivo catene a maglie stampate

Our production process drop forged chains



1
STAMPAGGIO A CALDO
DROP FORGING



2
LAVORAZIONE MECCANICA
MACHINING



2
LAVORAZIONE MECCANICA
MACHINING



TRATTAMENTO TERMICO
HEAT TREATMENT

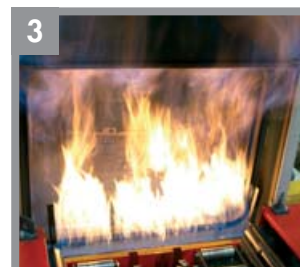
SALDATURA ROBOTIZZATA
ROBOT WELDING SYSTEM



MASCHERE DI SALDATURA
WELDING PREPARATION



PROVA DI TRAZIONE
TRACTION TEST



CONTROLLO QUALITÀ
QUALITY TESTING



CONTROLLO SALDATURA
WELDING QUALITY

ASSEMBLAGGIO
ASSEMBLING



IMBALLAGGIO
PACKING



PROFILO AZIENDALE

Principali aree di applicazione

Industria del cemento e laterizi

Cemento e materiali sfusi
Trasporto clinker, gesso e sabbia
Elevatori a tazze
Trasportatori Apron
Trasportatori raschianti

Industria dell'acciaio

Banchi di trafilatura per tubi e profilati
Trasporto tubi
Trasporto coil e nastri
Trasporto fogli di lamiera
Trasporto billette
Trasporto sfridi di lavorazione meccanica
Trasporto rottame
Trasporto carbone, ferro e additivi

Industria mineraria

Grattatrici carbone, minerali a grana grossa e argilla
Frantoio

Industria del legno e della carta

Trasportatori raschianti
Trasporto tronchi
Linee segatrici
Trasporto tavole
Trasporto trucioli legno
Industria del mobile
Industria dei pannelli truciolari
Trasporto bobine di carta

Centrali elettriche

Trasporto carbone, biomasse, scorie e quarzo
Trasporto ceneri
Catene per trazione per movimentazione paratoie, dighe e chiuse
Trasportatori Apron
Industria dell'ambiente
Impianti trattamento rifiuti
Trasporto polveri (secco e umido)
Grattatrici negli impianti per biomasse
Trasporto sinterizzati
Impianti per trattamento acque e fanghi

Industria alimentare e molitoria

Trasporto materiali sfusi
Imbottigliamento e lavaggio bottiglie
Trasporto mais e soia
Olio e Biodiesel
Carico e scarico navi
Industria dello zucchero

Altre applicazioni

Industria automobilistica
Macchine posacatrame
Trasportatori per l'industria della produzione dell'asfalto
Scale mobili
Ascensori
Attrazioni parchi divertimento
Macchine scavafossi
Catene per macchine per il pane
Trasporto scatole e bottiglie

Industria chimica e fertilizzanti

Trasporto polveri e grani per la gomma
Filtri di precipitazione

Main areas of application

Cement and Concrete Industries

Cement and Concrete Industry
Clinker, Gypsum, Clay Reclaimers
Bucket Elevators
Apron Conveyors
Scraper Reclaimers

Steel Industry

Traction chains for Draw Benches
Piping conveyors
Strip coil conveyors
Steel sheet and structural steel conveyors
Billet conveyors
Steel chips for the metalworking industry
Scrap conveyors
Coal, iron ore and additive, conveyors

Mineral Industry

Coal, coarse-grained ore, limestone, slate reclaimer
Stone crusher

Wood and Paper Industry

Scraper Reclaimers
Log conveyors
Sawing lines
Plank transports
Woodchip handling
Furniture Industry
Laminated wood Industry
Paper Coil conveyors

Power Stations

Coal, biomass, slag, quartz conveyors
Hot Bottom Ash Conveyors
Traction chains for Hydro Electric Power Plants
Apron Conveyors
Environmental Industry
Waste treatment plants
Powder Transport (dry and wet)
Reclaimer in biomass plants
Sinter conveyors
Water and sludge treatment plants

Food Industry

Bulk material conveyors
Bottle transport and washing
Mais and Soy conveyors
Oil & Biofuel
Port and ship handling
Sugar industry

Other Applications

Automotive
Tar-layer Machines
Drag conveyor chains for the Asphalt Industry
Escalators
Elevators
Theme Parks
Trench Digging Machines
Bakery chains
Box and bottle conveyors

Chemical and Fertilizer Industry

Polymers and Granules for the rubber & dust
Precipitators from filter holders



COMPANY PROFILE

Catene Maglie Stampate CATENE RASCHIANTI A MAGLIE STAMPATE



Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



Informazioni generali

Le catene a maglie stampate vengono realizzate tramite un processo di forgiatura, successiva lavorazione e trattamento dell'acciaio.

Sono utilizzate prevalentemente per il trasposto di materiali sfusi; di seguito riportiamo i principali settori di applicazione:

- Cemento e laterizi
- Acciaio
- Alimentare e molitoria
- Legno e carta
- Energia e ambiente

Per ulteriori informazioni si veda paragrafo di riferimento relativo a Aree di Applicazione (pag. 9).

Composizione di una catena a maglie stampate

Una catena a maglie stampate è un organo meccanico che, nella sua forma più semplice, è caratterizzato da quattro elementi: maglia, perno, anello di tenuta e raschiatore.

MAGLIA

Componente base della catena è la maglia stampata, composta da un pezzo unico, lavorato e trattato termicamente. Ogni maglia presenta due fori nella testa ed uno nella coda, ai quali viene accoppiato senza interferenza il perno.

MCV propone a catalogo numerose tipologie di maglie stampate, alcune standard ed altre speciali su richiesta.

PERNO

Il perno viene generalmente fissato tramite anelli di tenuta.

RASCHIATORE

Il raschiatore è generalmente saldato alla maglia, la tipologia è varia su disegno del cliente.

Materiali e trattamenti termici

Di seguito riportiamo i materiali ed i trattamenti termici utilizzati da MCV per le maglie delle proprie catene stampate.

Sono riportati anche alcuni criteri di scelta del tipo di materiale.

- **Maglia con simbolo MN: acciaio 18MnCrB5 cementato temprato**
Indicato in condizioni di esercizio con elevata usura
- **Maglia con simbolo CN: acciaio 18NiCrMo5 cementato temprato**
Indicato in ambiente con leggera corrosione
- **Maglia con simbolo C40: acciaio C45 bonificato**
Indicato in ambiente asciutto senza aggressione chimica
- **Maglia con simbolo CD: acciaio 42CrMo4 bonificato**
Indicato per esercizio a temperature fino a 400°C ed elevato carico di rottura
- **Maglia con simbolo S3: AISI304 - W. Nr. 1.4301**
Indicato in ambienti con corrosione
- **Maglia con simbolo S4: AISI420 bonificato - W. Nr. 1.4028**
Indicato in ambienti con corrosione e ossidazione
- **Maglia con simbolo S5: AISI316 - W. Nr. 1.4401**
Indicato in ambienti con elevata corrosione
- **Maglia con simbolo S10: X10CrAl7 - W. Nr. 1.4713**
Acciaio refrattario indicato in ambienti con elevate temperature





To link for passion

Catene Maglie Stampate

CATENE RASCHIANTI A MAGLIE STAMPATE



SCRAPER

The scraper is generally welded to the link. There are various scraper typologies, depending on customer drawing.

Materials and heat treatments

The raw materials and the heat treatments employed by MCV for the links of the forged scraper chains of their own production are listed as follows. Some basic criterion for the choice of the most suitable material are also mentioned.

- **Chain link with symbol MN: steel 18MnCrB5 case hardened**
Suited for high wearing applications
- **Chain link with symbol CN: steel 18NiCrMo5 case hardened**
Suited for working in low corrosion environments
- **Chain link with symbol C40: steel C 45 hardened and tempered**
Suited for working in dry environments without chemical attacks
- **Chain link with symbol CD: steel 42CrMo4 hardened and tempered**
Suited for working in temperatures up to 400° C and high breaking load demand
- **Chain link with symbol S3: AISI 304- W.Nr 1.4301**
Suited for environments with corrosion
- **Chain link with symbol S4: AISI 420 hardened and tempered -W.Nr 1.4028**
Suited for environments with corrosion and oxidation
- **Chain link with symbol S5: AISI 316 -W.Nr 1.4401**
Suited for environments with high corrosion levels
- **Chain link with symbol S10: X10CrAl7 - W.Nr 1.4713**
Refractory steel suitable to environments with high temperatures

General information

The forged steel scraper chains are manufactured according to a forging process followed by a machining and heat treatment of the steel.

They are most commonly used for conveying bulk materials and can be divided in the following main application areas:

- cement and bricks
- steel
- food and milling
- wood and paper
- energy and environment

For any further information please refer to the paragraph Main Areas of Application (pag.9)

Composition of a forged steel scraper chains

The scraper chains are mechanical components in their simplest form composed by four elements: link, pin, locking ring and scraper.

CHAIN LINK

Basic component of the chain is the forged link, composed by a single forged piece and then worked and thermally treated. Each link presents two bores one in the head and one in the tail, into which the pin is assembled without any interference gap. MCV proposes a catalogue with various kind of forged links, some in standard execution, others special produced on demand.

PIN

The pin is normally fixed by locking rings.



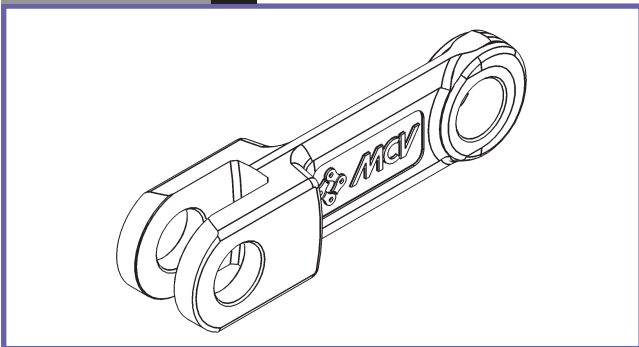
Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



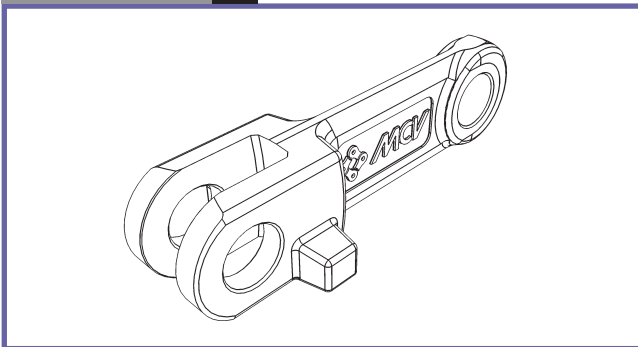
Esempi maglie standard
Examples of standard links

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS

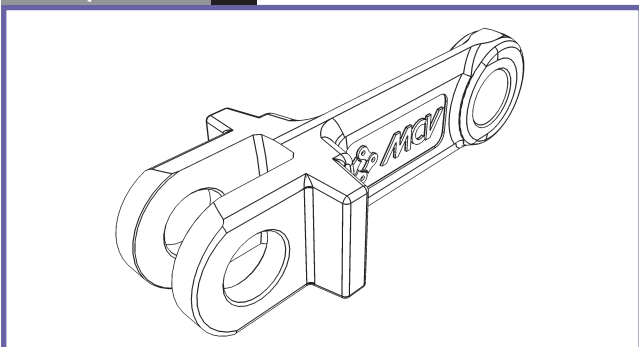
STILE / STYLE 1



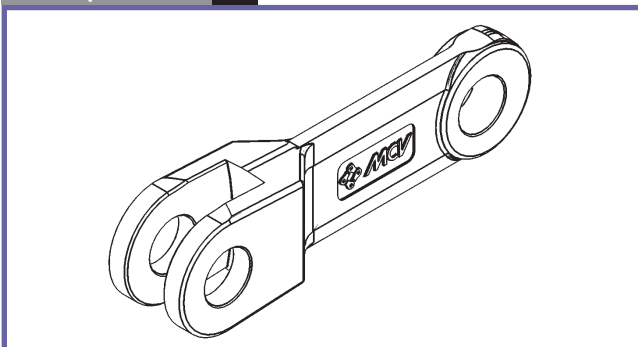
STILE / STYLE 2



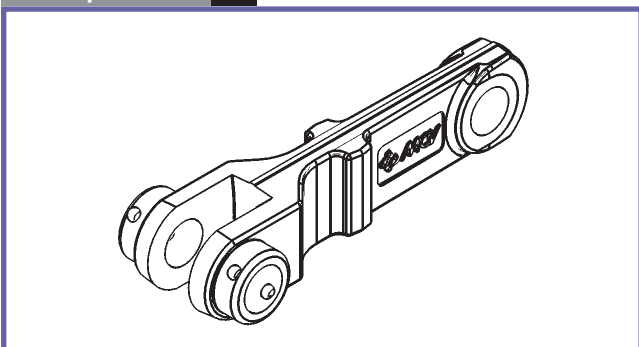
STILE / STYLE 3



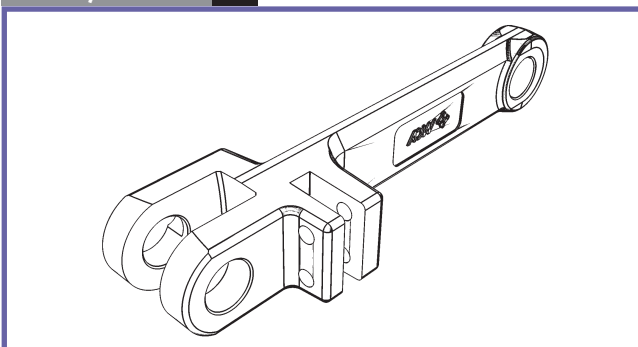
STILE / STYLE 4



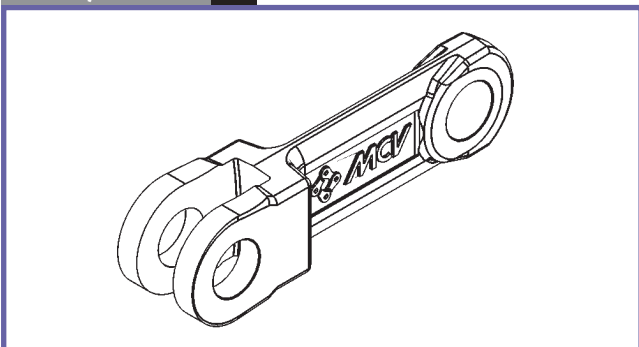
STILE / STYLE 5



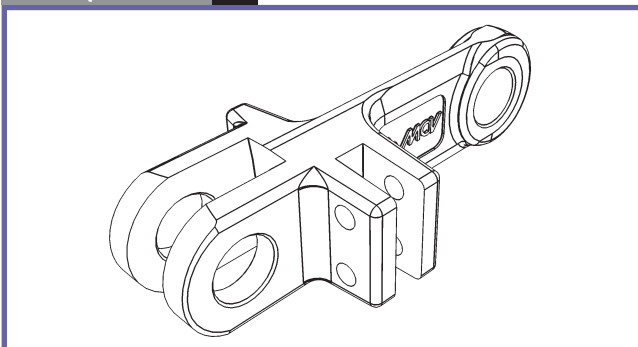
STILE / STYLE 6



STILE / STYLE 7



STILE / STYLE 8





To link for passion

Catene Maglie Stampate
CATENE RASCHIANTI A MAGLIE STAMPATE

Carichi di rottura medi teorici
Average theoretical breaking loads



Disponibilità Availability	Codice/Code	Carichi di rottura medi teorici /Average theoretical breaking loads				Stile* Style*	Peso al metro Weight per meter
		MN	CN	C45	CD		
		kN	kN	kN	kN		kg/m
R	7625	71	77	93	126	1	2,70
S	10160	110	120	150	210	1	3,50
S	10160/R	180	195	235	330	1	4,80
R	10170/R	170	200	230	350	7	4,80
R	12514	163	175	212	290	1	4,40
S	14214	180	195	235	330	1	4,90
S	14218	290	320	370	550	1	9,40
R	142180	290	320	370	550	2	10,40
R	142181	290	320	370	550	3	10,80
S	14222	370	400	480	655	1	12,20
S	14226	440	470	570	790	1	13,60
R	14228	290	315	380	550	7	9,00
R	14236	460	500	600	850	7	15,20
R	15014	227	245	300	405	1	9,80
R	15090	155	165	200	270	1	5,80
S	16018	320	342	420	560	5	9,30
S	16025	370	400	480	655	1	10,80
S	20025	380	410	500	670	1	11,30
S	20028	500	540	660	900	1	16,70
S	21650	585	630	765	1.035	4	20,70
R	25040	735	860	1.050	1.430	1	18,80
S	26040	840	900	1.100	1.480	1	21,00
R	26045	930	1.000	1.220	1.650	1	21,80
S	142182	290	320	370	550	6	11,60
S	142262	440	470	570	790	6	16,30
R	142183	290	320	370	550	8	12,10
R	142263	440	470	570	790	8	16,80
R	160252	370	400	480	655	6	13,60
S	175402	540	580	705	955	6	20,30
S	200182	250	265	325	440	8	8,20
S	200252	380	410	500	670	6	13,00
S	200402	540	580	705	955	6	19,30
S	250252	380	410	500	670	6	12,00
S	250402	540	580	705	955	6	17,70
R	250602	975	1.050	1.270	1.720	6	35,20

R = Richiesta / Request

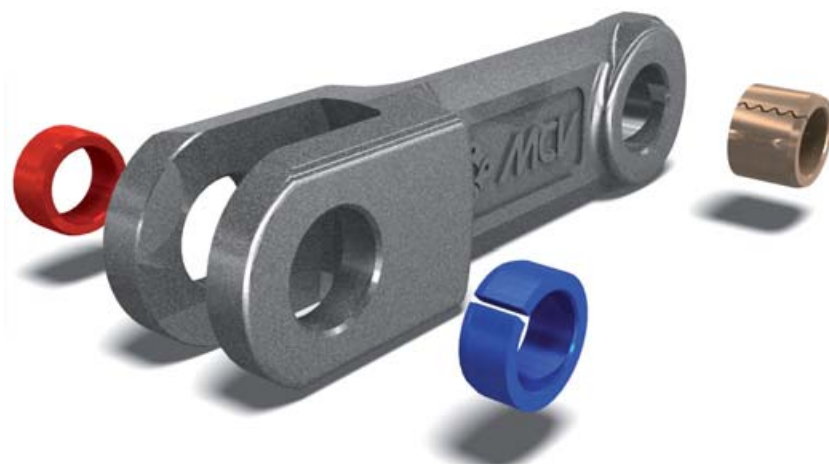
S = Standard

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



Applicazioni speciali
Special applications

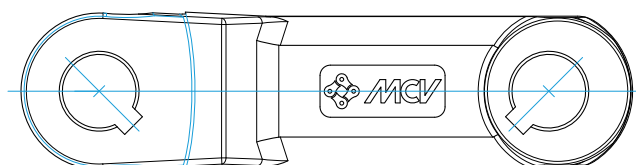
Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



■ FIG. 1 APPLICAZIONI DI BUSSOLE ANTI-USURA
FIG. 1 APPLICATIONS OF WEAR BUSHINGS



■ FIG. 2 APPLICAZIONI CON CHIAVETTE A 120°
FIG. 2 APPLICATIONS WITH KEYWAY AT 120°



APPLICAZIONI SPECIALI

Oltre alle varie tipologie di maglie standard indicate a pag. 10, esistono particolari applicazioni utilizzabili sulle maglie stampate.

Qui di seguito riportiamo alcuni esempi:

1. applicazioni di bussole anti-usura (Fig. 1)
2. applicazioni con chiavette a 90° (Fig. 2)
3. con attacco speciale forgiato (Fig. 3)

SPECIAL APPLICATIONS

Besides the wide range of forged links shown on page 10, there are some special executions which can be applied to the scraper chains forged steel.

We draw your kind attention to the following ones :

1. Applications of wear bushings (Fig.1)
2. Applications with keyway at 120°(Fig.2)
3. With special forged attachment (Fig.3)



■ FIG. 3 CON ATTACCO SPECIALE FORGIATO
FIG. 3 WITH SPECIAL FORGED ATTACHMENT



Tipologie di perni e accessori Chain pin types and accessories



TIPOLOGIE DI PERNI E ACCESSORI

Nella maggior parte dei casi e nella forma più semplice, le catene a maglie stampate sono provviste di perni con anelli di tenuta ambo i lati; possono però essere fornite varie tipologie di perni e accessori, a seconda dell'utilizzo o della geometria richiesta. Qui di seguito riportiamo una vasta gamma di perni e accessori che si utilizzano su questi tipi di catene.

Come perni possiamo avere:

- **Perno STILE 1**
Perno con cava per anello di tenuta ambo i lati
- **Perno STILE 2**
Perno con testa da un lato e cava per anello di tenuta dall'altro lato
- **Perno STILE 3**
Perno con testa da un lato e foro dall'altro lato
- **Perno STILE 4**
Perno con spine elastiche e collari
- **Perno STILE 5**
Perno con anti-rotazione e foro per S-Pins
- **Perno STILE 6**
Perno con testa esagonale e parte filettata
- **Perno STILE 7**
Perno con testa fresata e parte filettata

Come accessori possiamo avere:

- **Accessorio STILE 8** – Bussola anti usura
- **Accessorio STILE 9** – Bussola anti usura speciale
- **Accessorio STILE 10** – U-Pins
- **Accessorio STILE 11** – Dado di bloccaggio
- **Accessorio STILE 12** – Anello di tenuta
- **Accessorio STILE 13** – S-Pins
- **Accessorio STILE 14** – Coppiglia
- **Accessorio STILE 15** – Spina elastica
- **Accessorio STILE 16** – Rondella
- **Accessorio STILE 17** – Collare

PINS AND ACCESSORIES

Different types of pins and accessories can be supplied depending on the kind of application and on the geometry required.

Frequently scraper chains have pins with locking rings (circlips) on both sides and this is the simplest locking system. There is a wide range of pins and accessories available for these kind of chains, as follows :

- **Pin STYLE 1**
Pin with cove for circlip on both sides
- **Pin STYLE 2**
Pin with head on 1 side and cove for locking ring on the other side
- **Pin STYLE 3**
Pins with head on 1 side and bore on the other side
- **Pin STYLE 4**
Pin with bore for tension rings
- **Pin STYLE 5**
Pin with bore for anti-rotation and bore for S-Pins
- **Pin STYLE 6**
Pin with hexagonal head and threaded part
- **Pin STYLE 7**
Pin with milled head and threaded part.

The following accessories are at disposal :

- **Accessory STYLE 8** – Wear bushing
- **Accessory STYLE 9** – Special wear bushing
- **Accessory STYLE 10** – U-Pins
- **Accessory STYLE 11** – Locking nut
- **Accessory STYLE 12** – Circlip
- **Accessory STYLE 13** – S-Pins
- **Accessory STYLE 14** – Cotter
- **Accessory STYLE 15** – Tension ring
- **Accessory STYLE 16** – Washer
- **Accessory STYLE 17** – Collar





Sagome dei raschiatori *Shapes of the scrapers*

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino quadro
- Link with square scraper

Tipo di impianto / Type of plant

- Trasportatori orizzontali o leggermente inclinati 5°/10°
- Horizontal or slightly inclined chain conveyors 5°/10°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino piatto
- Link with flat scraper

Tipo di impianto / Type of plant

- Trasportatori orizzontali o leggermente inclinati 5°/10°
- Horizontal or slightly inclined chain conveyors 5°/10°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino piatto con applicato pulitore
- Link with flat scraper with cleaner

Tipo di impianto / Type of plant

- Trasportatori orizzontali o leggermente inclinati 5°/10°
- Horizontal or slightly inclined chain conveyors 5°/10°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino quadro piegato ad "U"
- Link with square scraper bent "U" form

Tipo di impianto / Type of plant

- Trasportatori inclinati fino ad un massimo di 25°
- Inclined chain conveyors max 25°



To link for passion

Catene Maglie Stampate

CATENE RASCHIANTI A MAGLIE STAMPATE

Sagome dei raschiatori Shapes of the scrapers



Chain-Forged Links
SCRAPER CHAINS FORGED LINKS

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



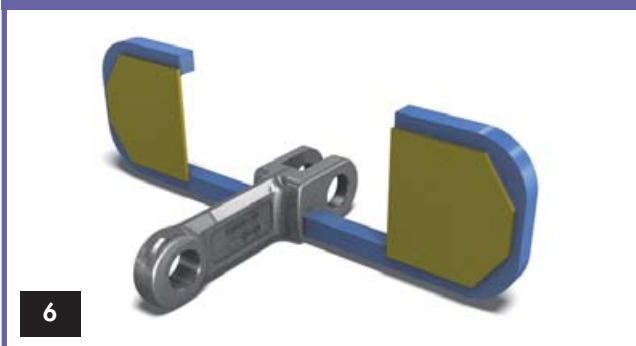
Descrizione / Description

- Maglia con traversino quadro piegato a "C"
- Link with square scraper bent "C" form

Tipo di impianto / Type of plant

- Trasportatori inclinati oltre i 25°
- Inclined chain conveyors more than 25°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino quadro piegato a "C" con lamiera
- Link with square scraper bent "C" form with filling sheet

Tipo di impianto / Type of plant

- Trasportatori inclinati oltre i 25°
- Inclined chain conveyors more than 25°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino quadro piegato a doppio "00"
- Link with square scraper bent double "00"

Tipo di impianto / Type of plant

- Trasportatori inclinati e verticali
- Inclined and vertical chain conveyors

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino quadro piegato a doppio "00" con lamiera
- Link with square scraper bent double "00" with filling sheet

Tipo di impianto / Type of plant

- Trasportatori inclinati e verticali
- Inclined and vertical chain conveyors



Sagome dei raschiatori *Shapes of the scrapers*

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con traversino piatto sagomato a forma di "K"
- Link with flat scraper, shaped in "K" form

Tipo di impianto / Type of plant

- Trasportatori orizzontali ed inclinati fino ad un massimo di 30°
- Horizontal and inclined chain conveyors max than 30°

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Catena doppia con traversino piatto raschiante
- Double chain with scraping flat scraper

Tipo di impianto / Type of plant

- Trasportatori ed estrattori di minerali vari
- Extractors and chain conveyors of various minerals

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con attacco speciale a forcella
- Link with special fork attachment

Tipo di impianto / Type of plant

- Trasportatori ed estrattori speciali di qualunque tipo
- Special extractors and chain conveyors of any type

SAGOMA DEL RASCHIATORE / SHAPE OF THE SCRAPERS



Descrizione / Description

- Maglia con raschiatore in plastica
- Link with plastic scraper

Tipo di impianto / Type of plant

- Trasportatori di tipo alimentare
- Food conveyors



To link for passion

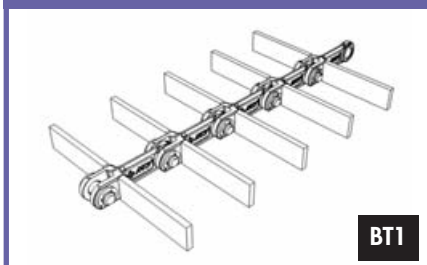
Catene Maglie Stampate
CATENE RASCHIANTI A MAGLIE STAMPATE

Sequenze di montaggio
Assembly sequences

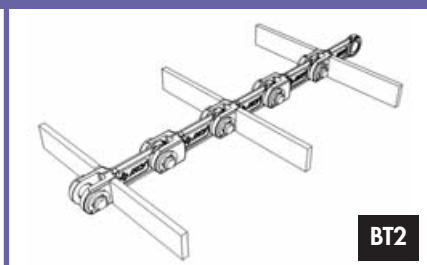


Chain-Forged Links
SCRAPER CHAINS FORGED LINKS

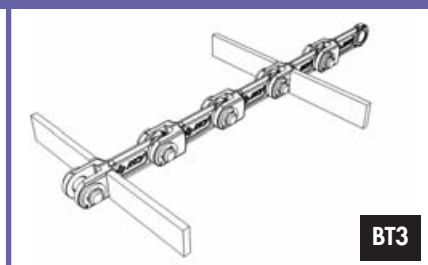
RASCHIATORI PIATTI / FLAT SCRAPERS



BT1

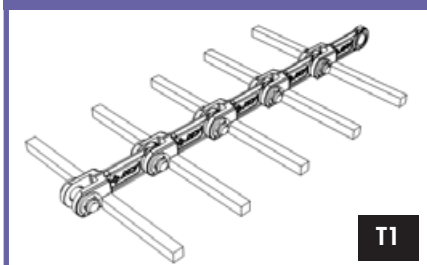


BT2

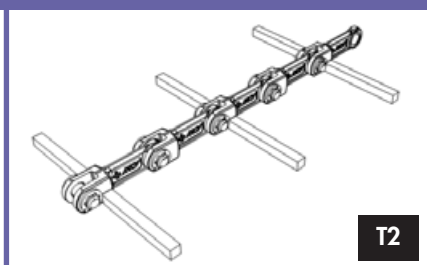


BT3

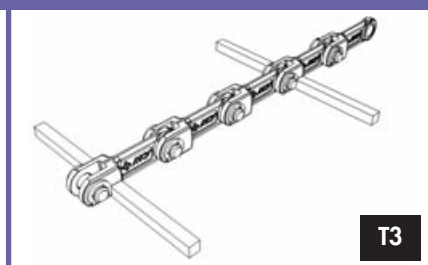
RASCHIATORI QUADRI / SQUARE SCRAPERS



T1



T2



T3

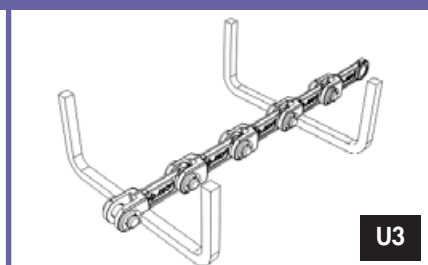
RASCHIATORI QUADRI A FORMA DI "U" / SQUARE SCRAPERS "U" SHAPE



U1

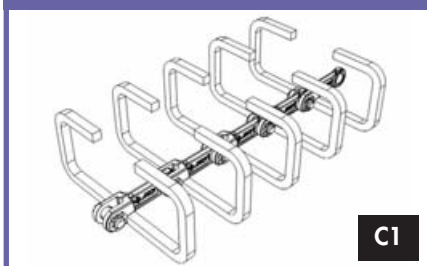


U2



U3

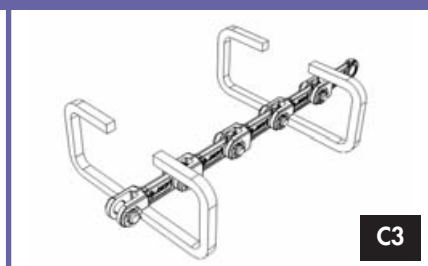
RASCHIATORI QUADRI A FORMA DI "C" / SQUARE SCRAPERS "C" SHAPE



C1

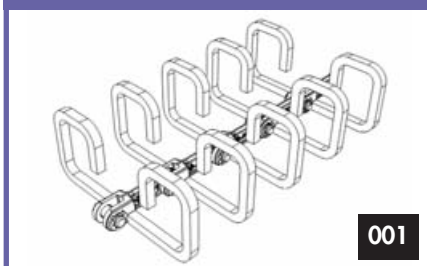


C2

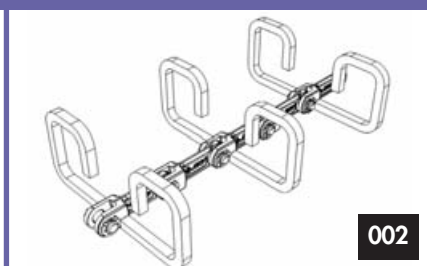


C3

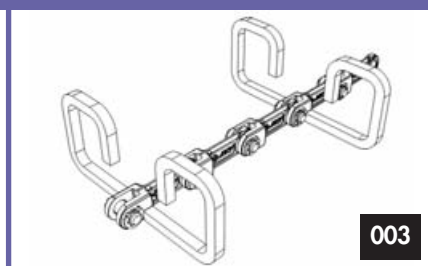
RASCHIATORI QUADRI A FORMA DI DOPPIO "00" / SQUARE SCRAPERS DOUBLE "00"



001



002

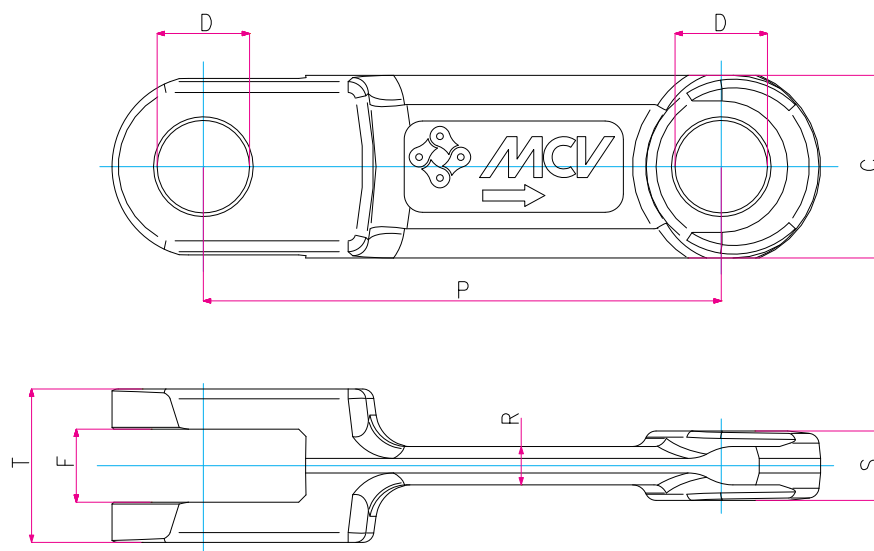


003

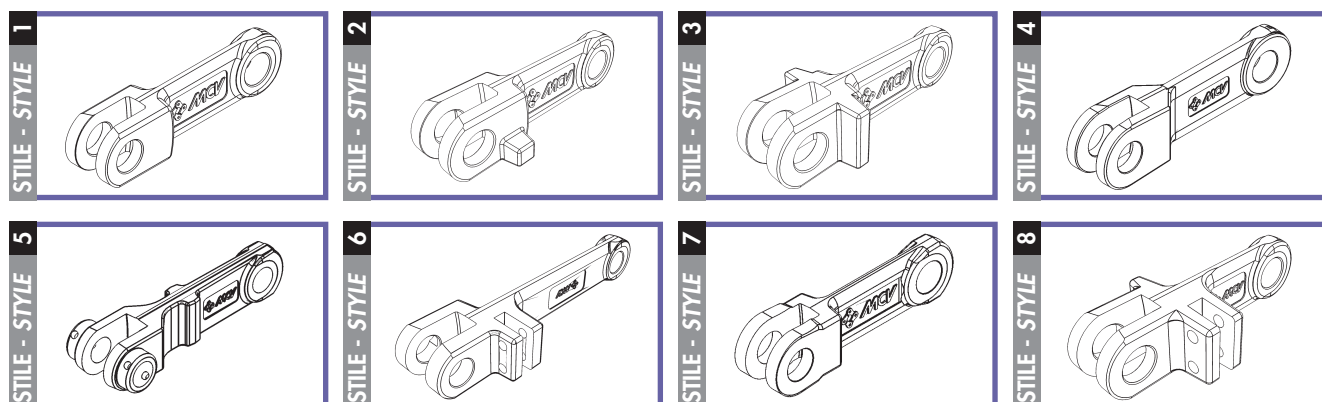


Codici e dimensioni
Codes and dimensions

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



Codice/Code	Stile Style	Dimensioni / Dimensions						
		P	T	C	S	F	R	D
		mm	mm	mm	mm	mm	mm	mm
7625	1	76,2	18	30	7	8	6	14
10160	1	101,6	24	36	8	10	6	14
10160/R	1	101,6	30	36	13	14	8	14
10170/R	7	101,8	27,4	36	12	13	6,5	14
12514	1	125	30	36	13	14	10	16
14214	1	142	30	40	13	14	9	18
14218	1	142	42	50	19	20	11	25
142180	2	142	42	50	19	20	11	25
142181	3	142	42	50	19	20	11	25
14222	1	142	54	50	25	27	16	25
14226	1	142	62	50	28	30	15	25
14228	7	142	42	49	18,8	20	11	25
14236	7	142	62	49	28,8	30	16	25
15014	1	150	42	48	16	18	12	25
15090	1	150	24	47	9	10	7	20





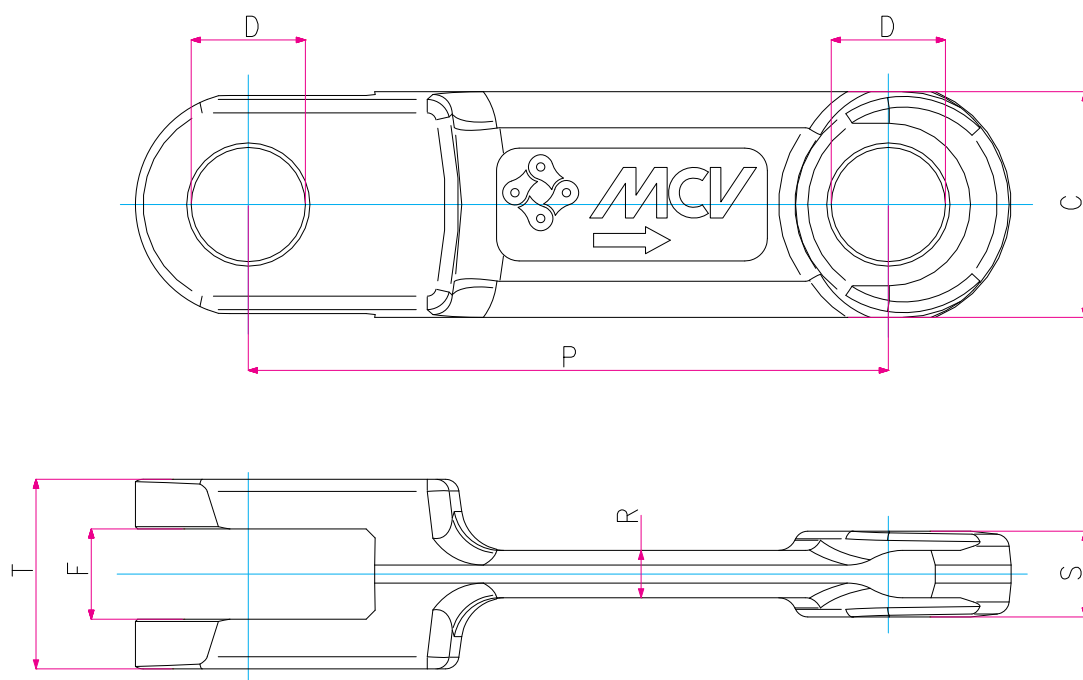
To link for passion

Catene Maglie Stampate
CATENE RASCHIANTI A MAGLIE STAMPATE

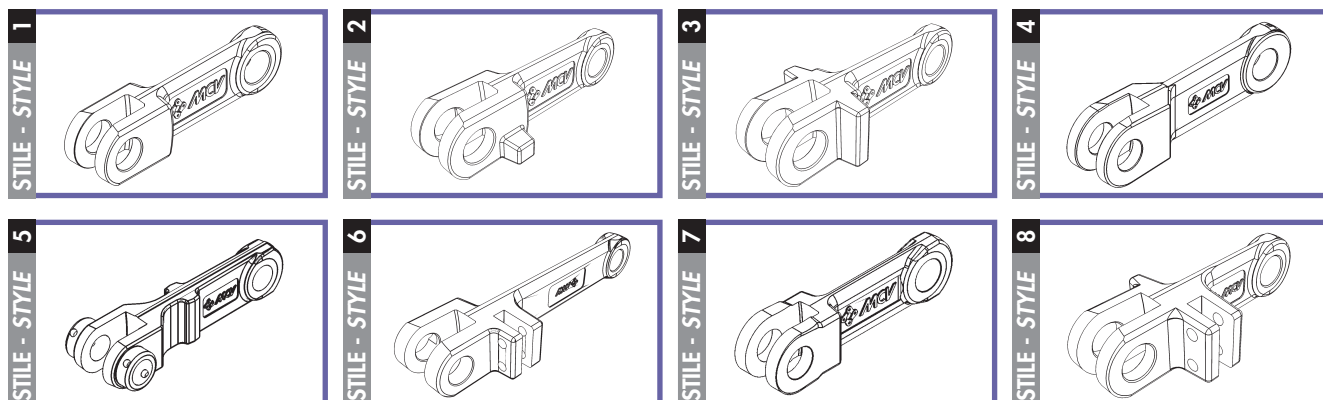
Codici e dimensioni
Codes and dimensions



Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



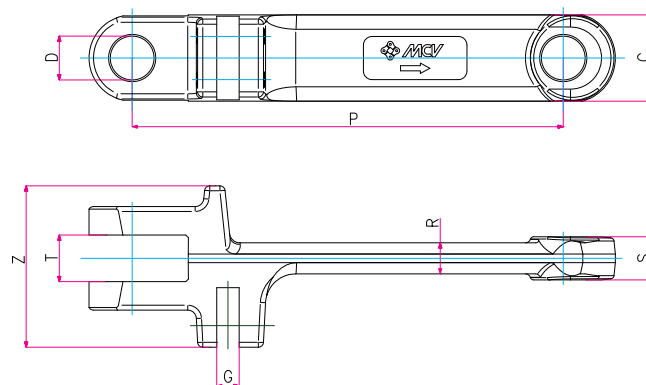
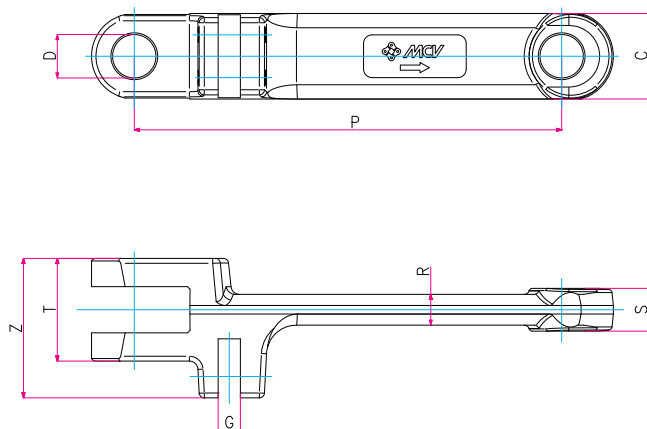
Codice/Code	Stile Style	Dimensioni / Dimensions						
		P	T	C	S	F	R	D
		mm	mm	mm	mm	mm	mm	mm
16018	5	160	46	46	22	24	15	22
16025	1	160	50	53	23	25	13	25
20025	1	200	60	50	25	27	18	25
20028	1	200	66	60	30	32	20	30
21650	4	216	58	72	25	28	18	35
25040	1	250	70	75	32	34	18	32
26040	1	260	70	75	31	33	20	32
26045	1	260	78	75	35	37	20	32



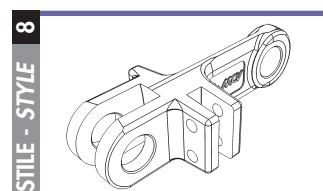
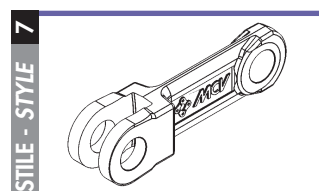
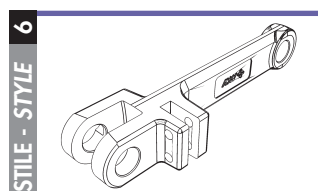
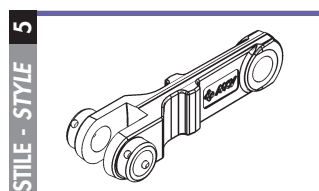
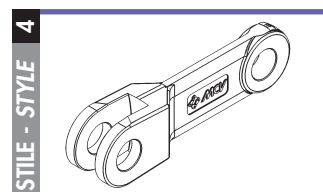
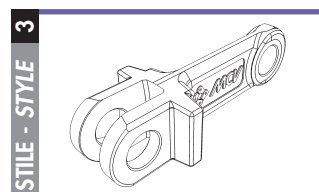
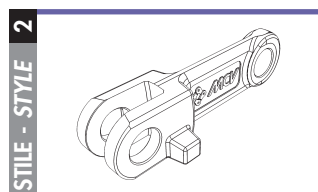
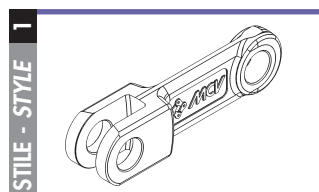


Codici e dimensioni
Codes and dimensions

Chain-Forged Links
SCRAPER CHAINS FORGED LINKS



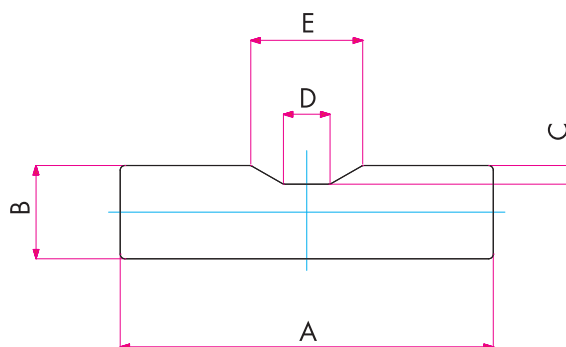
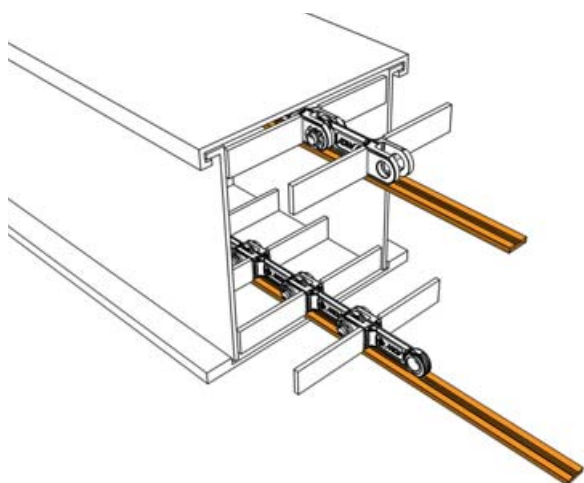
Codice/Code	Stile Style	Dimensioni / Dimensions							
		P	T	Z	C	S	G	R	D
		mm	mm	mm	mm	mm	mm	mm	mm
142182	6	142	42	70	50	19	13	11	25
142262	6	142	62	87	50	28	13	15	25
142183	8	142	42	82	50	19	13	10,5	25
142263	8	142	62	99	50	28	13	14,5	25
160252	6	160	50	82	53	23	13	13	25
175402	6	175	72	95	60	30	16	23	30
200182	8	200	46	85	40	20	13	14	20
200252	6	200	60	81	50	25	13	18	25
200402	6	200	70	95	60	30	13	20	30
250252	6	250	60	81	50	25	13	18	25
250402	6	250	70	95	60	30	13	20	30
250602	6	250	100	140	70	45	21	36	35





To link for passion

Catene Maglie Stampate

CATENE RASCHIANTI A MAGLIE STAMPATEGuide di usura
Wear RailsChain-Forged Links
SCRAPER CHAINS FORGED LINKSGuide di usura con bulloni saldati per facile installazione
Wear rails with welded bolts for easy assembling

	Dimensioni / Dimensions					Peso al metro Weight per meter
	A	B	C	D	E	
Codice/Code	mm	mm	mm	mm	mm	Kg/m
GM 3010	30,0	10,0	2,0	5,0	11,5	2,32
GM 4010	40,0	10,0	2,0	5,0	12,0	3,01
GM 5010	50,0	10,0	2,0	5,0	12,0	3,82
GM 5020	50,0	20,0	2,0	5,0	12,0	7,72
GM 6010	60,0	10,0	2,5	6,0	16,0	4,45
GM 6012	60,0	12,0	2,5	6,0	16,0	5,50
GM 6020	60,0	20,0	3,0	6,0	16,0	9,15
GM 7010	70,0	10,0	3,0	15,0	25,0	5,02
GM 7020	70,0	20,0	3,0	15,0	25,0	10,60

Altre misure disponibili a richiesta / Other dimensions available on request

Materiale/Material	Numero Werkstoff DIN/Werkstoff Number DIN
DIN - X120Mn12	1.3401
UNI - X120Mn13	1.3401
AFNOR - Z120Mn12	1.3401

Ruote comando e ruote di rinvio per catene a maglie stampate Drive sprockets and return wheels for scraper chain forged steel.

Chain-Forged Links
GEAR-WHEELS

Ruote comando e ruote di rinvio per catene a maglie stampate

Le ruote dentate sono un elemento decisivo per le prestazioni e la durata di qualsiasi sistema di catene, e sono il completamento di un sistema di trasporto. Mentre per le catene meccaniche esistono normative specifiche che definiscono forme e spessori del pignone, per le catene a maglie stampate non esiste nessuna norma o ente specifico che ne definisca tali parametri, il tutto si basa sull'esperienza che MCV ha maturato nel corso degli anni. L'unico valore calcolabile in base ad un'espressione matematica con un coefficiente in tutto simile alle ruote per le catene meccaniche, risulta essere il diametro primitivo.

Per una questione di comodità, riportiamo di seguito la tabella dei coefficienti di moltiplicazione "n".

Drive sprockets and return wheels for scraper chain forged steel.

The toothed wheels are a key element in the determination of the good service and of the long lasting of any chain system, and they make the conveying system complete.

While for mechanical chains there are specific norms fixing shapes types and sprocket thicknesses, for the forged steel scraper chains there are no norms, and no recognized Institute establishes any parameter of this kind, but all depends on the experience and know-how MCV matured in the course of the years.

The only calculable value, based on a mathematic expression with a coefficient very similar to the wheels for mechanical chains, results to be the pitch diameter.

For your reference see the table of the multiple coefficients "n" is given hereby.

Z	n	Z	n	Z	n	Z	n	Z	n	Z	n	Z	n	Z	n
5	1.701	30	9.567	55	17.517	80	25.471	105	33.428	130	41.384	155	49.342	180	57.299
6	2.000	31	9.885	56	17.835	81	25.790	106	33.746	131	41.702	156	49.660	181	57.617
7	2.305	32	10.202	57	18.153	82	26.108	107	34.064	132	42.022	157	49.978	182	57.936
8	2.612	33	10.521	58	18.471	83	26.426	108	34.382	133	42.339	158	50.297	183	58.253
9	2.924	34	10.838	59	18.789	84	26.744	109	34.700	134	42.658	159	50.615	184	58.573
10	3.237	35	11.156	60	19.107	85	27.063	110	35.019	135	42.976	160	50.933	185	58.890
11	3.550	36	11.474	61	19.425	86	27.381	111	35.337	136	43.294	161	51.252	186	59.208
12	3.864	37	11.792	62	19.744	87	27.699	112	35.655	137	43.606	162	51.569	187	59.527
13	4.179	38	12.109	63	20.061	88	28.017	113	35.974	138	43.931	163	51.889	188	59.845
14	4.494	39	12.427	64	20.380	89	28.335	114	36.292	139	44.249	164	52.206	189	60.163
15	4.809	40	12.746	65	20.698	90	28.654	115	36.610	140	44.567	165	52.525	190	60.482
16	5.126	41	13.063	66	21.017	91	28.972	116	36.929	141	44.886	166	52.843	191	60.799
17	5.441	42	13.382	67	21.335	92	29.290	117	37.247	142	45.203	167	53.161	192	61.118
18	5.759	43	13.699	68	21.653	93	29.608	118	37.565	143	45.523	168	53.480	193	61.439
19	6.076	44	14.018	69	21.971	94	29.927	119	37.883	144	45.840	169	53.798	194	61.757
20	6.392	45	14.336	70	22.289	95	30.245	120	38.202	145	46.161	170	54.115	195	62.075
21	6.709	46	14.654	71	22.608	96	30.563	121	38.520	146	46.477	171	54.434	196	62.394
22	7.027	47	14.972	72	22.926	97	30.882	122	38.838	147	46.795	172	54.753	197	62.710
23	7.344	48	15.290	73	23.244	98	31.200	123	39.156	148	47.113	173	55.070	198	63.029
24	7.661	49	15.607	74	23.562	99	31.518	124	39.475	149	47.432	174	55.389	199	63.348
25	7.979	50	15.926	75	23.880	100	31.836	125	39.793	150	47.750	175	55.707	200	63.665
26	8.296	51	16.244	76	24.199	101	32.155	126	40.112	151	48.068	176	56.006		
27	8.614	52	16.562	77	24.517	102	32.473	127	40.430	152	48.387	177	56.344		
28	8.931	53	16.880	78	24.835	103	32.791	128	40.748	153	48.705	178	56.663		
29	9.250	54	17.194	79	25.153	104	33.109	129	41.066	154	49.022	179	56.981		

Per le catene a maglie stampate, esistono fondamentalmente tre tipologie di ruote:

- Ruote di comando a settori
- Ruote di comando monoblocco
- Ruote di rinvio

Tutte e tre le tipologie possono essere fornite, su specifica richiesta del cliente, con:

- Foro grezzo
- Foro finito
- Foro finito con cava

A richiesta possono essere fornite settori reversibili per questa tipologia di ruote.

We count three fundamental types of wheels for the scraper chain forged steel.

- Sector driving sprockets
- Monobloc drive sprockets
- Return wheels

All three types can be supplied on special demand of the customer and may have:

- Raw / pilot bore
- Finished bore
- Finished bore with keyway

Reversible sectors can also be supplied according to customer's request.



To link for passion

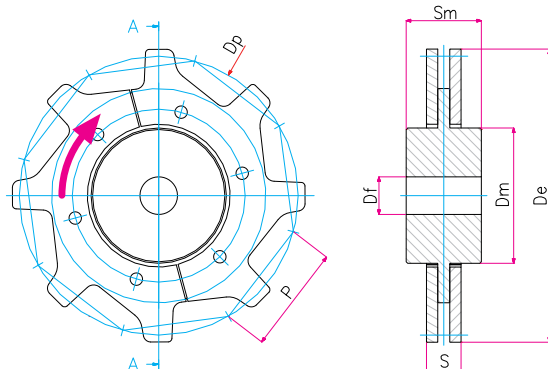
Catene Maglie Stampate
RUOTE DENTATE

Ruote dentate - Materiali e trattamenti termici Gear-wheels - Material and heat treatments

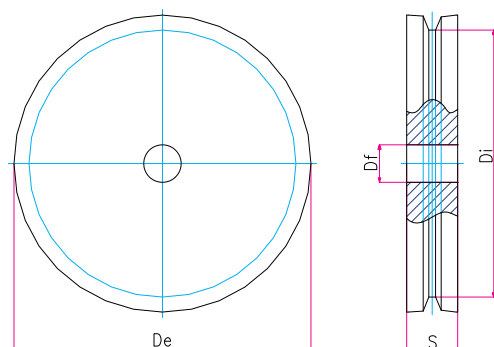


Tipologie di ruote

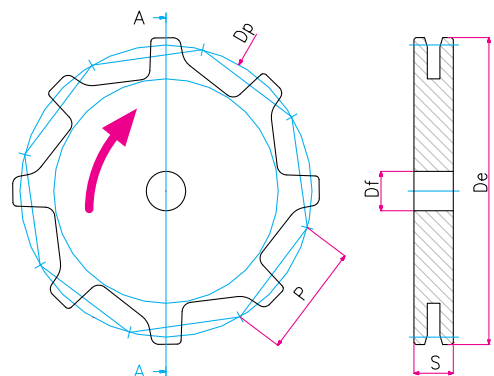
RUOTA DI COMANDO A SETTORI / SECTOR DRIVING-WHEEL



RULLO DI RINVIO / DRIVEN-WHEEL



RUOTA DI COMANDO MONOBLOCCO / MONOBLOC DRIVING-WHEEL



Ruote

Materiali e trattamenti termici

Particolare attenzione viene prestata ai materiali e ai trattamenti termici impiegati per la fabbricazione delle ruote di comando e rinvio, a causa di fenomeni di usura e di fatica che possono manifestarsi sulla sagoma dei denti.

Vengono utilizzati generalmente acciai legati cementati e temprati, o in alternativa acciai al carbonio ai quali viene applicato un trattamento termico di indurimento superficiale.

Chain wheels

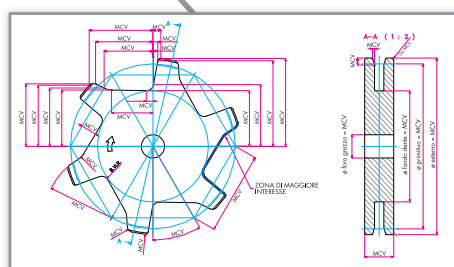
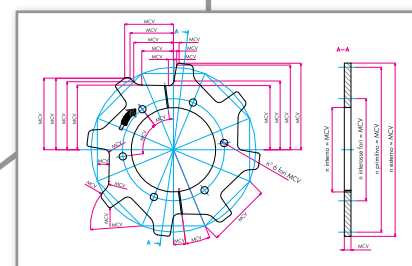
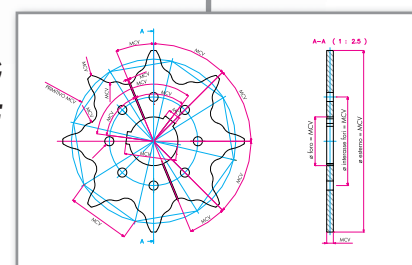
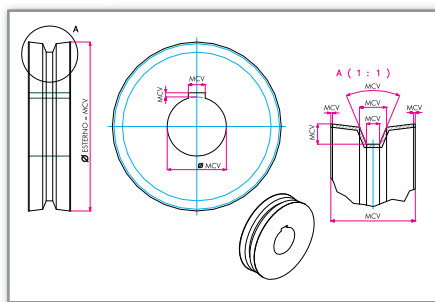
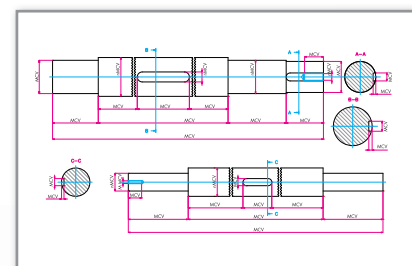
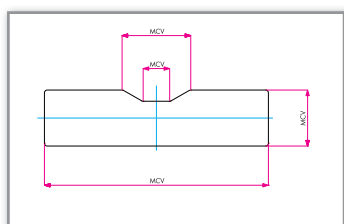
Material and heat treatments

A special care and attention must be reserved to the choice of the most suitable raw materials qualities and heat treatments for the manufacture of drive sprockets and return wheels, because wearing and fatigue phenomena may concern the teeth.

In general case hardened alloy steels or, in alternative, carbon steels with special heat treatment of superficial hardening are applied.

Chain-Forged Links
GEAR-WHEELS

ALBERO MOTORE
DRIVE SHAFT



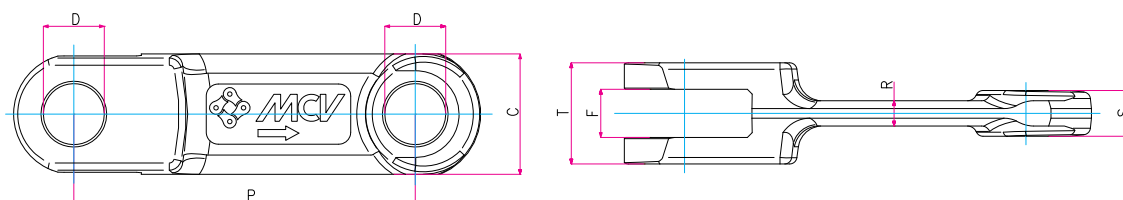
RUOTA MONOBLOCCO
MONOBLOC DRIVING WHEEL



To link for passion

Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 10160 Drive sprockets and driven wheels for links code 10160

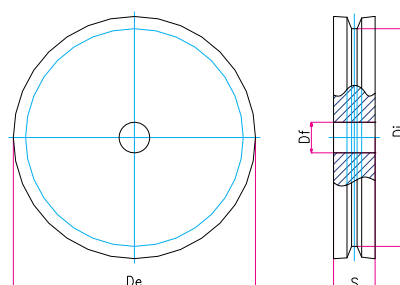
Chain-Forged Links
GEAR WHEELS

Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
10160	101,60	24	36	8	10	6	14	3,50

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	110	120	150	210

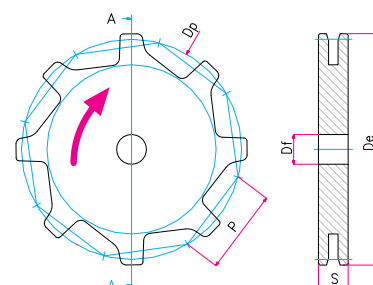
► Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
10160/06R	160	140	25	34
10160/08R	229	209	25	34
10160/10R	295	275	30	34
10160/12R	356	336	40	34
10160/14R	420	400	40	34



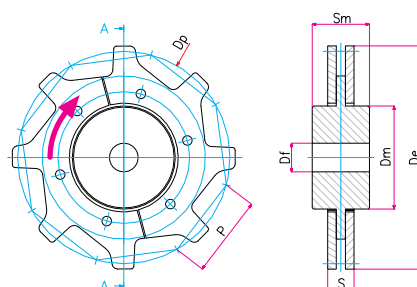
► Ruota comando monoblocco / Monoblock driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
10160/06C	6	203,20	216	30	34
10160/08C	8	265,49	277	40	34
10160/10C	10	328,78	340	40	34
10160/12C	12	392,55	404	50	34
10160/14C	14	456,58	468	50	34



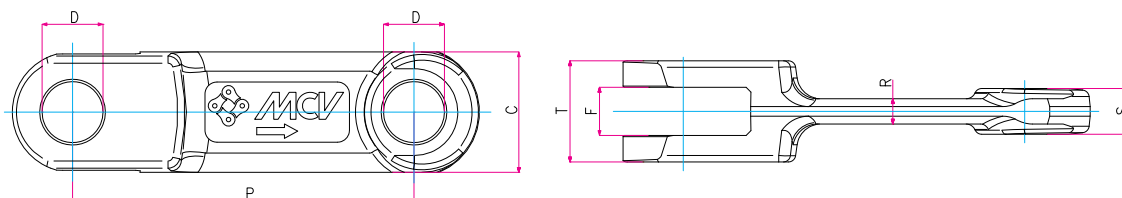
► Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
10160/06CS	6	203,20	216	25	85	30	60
10160/08CS	8	265,49	277	30	120	30	60
10160/10CS	10	328,78	340	40	160	30	80
10160/12CS	12	392,55	404	50	230	30	80
10160/14CS	14	456,58	468	50	280	30	80





Ruote di comando e rulli di rinvio per maglia codice 10160-R Drive sprockets and driven wheels for links code 10160-R

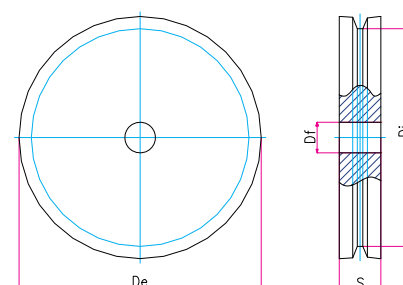
Chain-Forged Links
GEAR-WHEELS


Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
10160-R	101,60	30	36	13	14	8	14	4,80

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	180	195	235	330

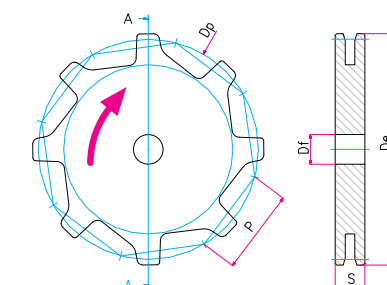
Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
10160-R/06R	160	136	25	40
10160-R/08R	229	205	25	40
10160-R/10R	295	271	30	40
10160-R/12R	356	332	40	40
10160-R/14R	420	396	40	40



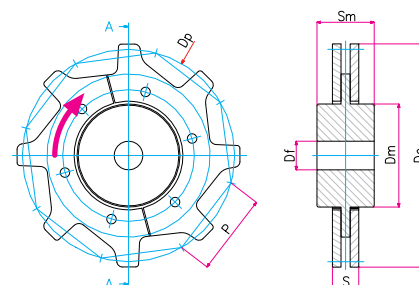
Ruota comando monoblocco / Monoblock driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
10160-R/06C	6	203,20	216	30	40
10160-R/08C	8	265,49	277	40	40
10160-R/10C	10	328,78	340	40	40
10160-R/12C	12	392,55	404	50	40
10160-R/14C	14	456,58	468	50	40



Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
10160-R/06CS	6	203,20	216	25	85	34	75
10160-R/08CS	8	265,49	277	30	120	34	75
10160-R/10CS	10	328,78	340	40	160	34	95
10160-R/12CS	12	392,55	404	50	230	34	95
10160-R/14CS	14	456,58	468	50	280	34	95

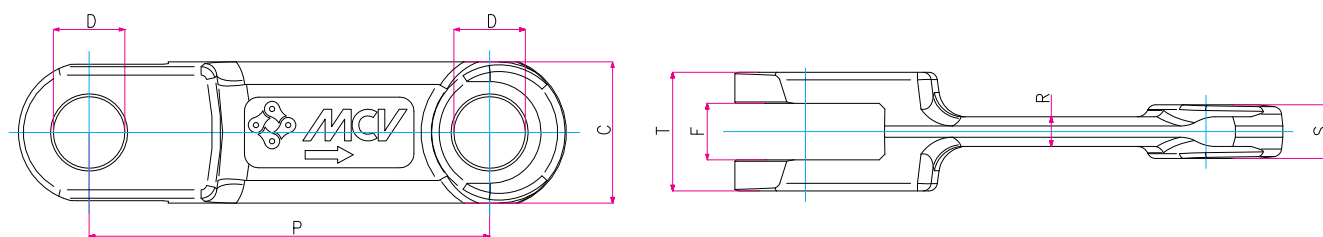




To link for passion

Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 14214 Drive sprockets and driven wheels for links code 14214

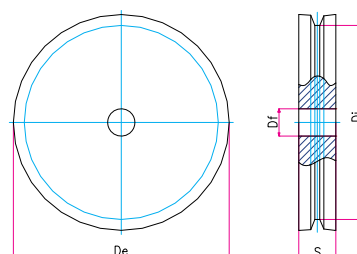
Chain-Forged Links
GEAR-WHEELS

Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
14214	142	30	40	13	14,5	8,5	18	4,90

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Treatment termico Heat treatment	Cementazione tempr Case hardening	Cementazione tempr Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	180	195	235	330

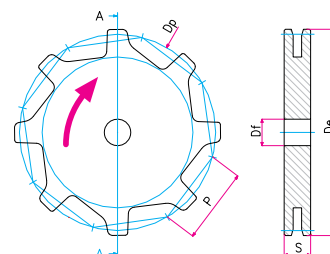
Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
14214/06R	234	210	30	40
14214/08R	320	296	40	40
14214/10R	415	391	40	40
14214/12R	500	476	40	40



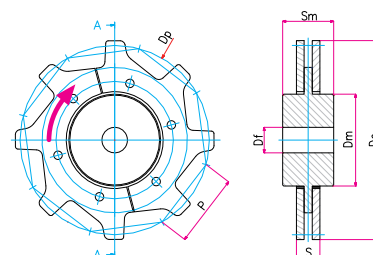
Ruota comando monoblocco / Monoblock driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
14214/06C	6	284,00	304	30	40
14214/08C	8	371,06	390	40	40
14214/10C	10	459,52	480	40	40
14214/12C	12	548,65	570	40	40



Ruota comando a settori / Sector driving-wheel

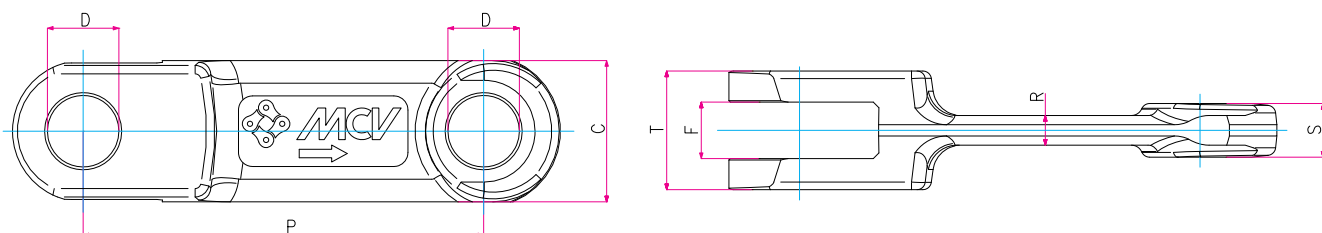
Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
14214/06CS	6	284,00	304	30	130	39	80
14214/08CS	8	371,06	390	40	190	39	80
14214/10CS	10	459,52	480	40	250	39	80
14214/12CS	12	548,65	570	40	340	39	80





Ruote di comando e rulli di rinvio per maglia codice 14218
Drive sprockets and driven wheels for links code 14218

Chain-Forged Links
GEAR-WHEELS

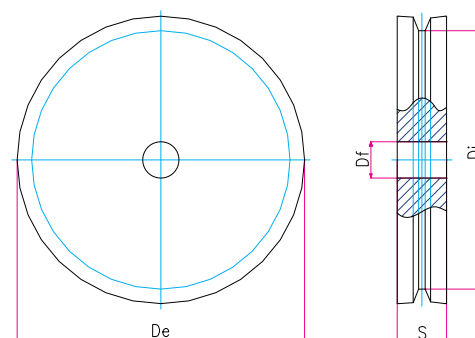


Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	
	mm	mm	mm	mm	mm	mm	mm	Kg/m
14218	142	42	50	19	20	11	25	9,40

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione tempra Case hardening	Cementazione tempra Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	290	320	370	550

► **Rullo di rinvio / Driven-wheel**

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
	mm	mm	mm	mm
14218/06R	234	210	40	50
14218/07R	280	256	40	50
14218/08R	320	296	40	50
14218/09R	362	338	40	50
14218/10R	415	391	40	50
14218/11R	454	430	40	50
14218/12R	500	476	40	50
14218/13R	545	521	40	50
14218/14R	588	564	40	50
14218/15R	632	608	40	50
14218/16R	677	653	40	50

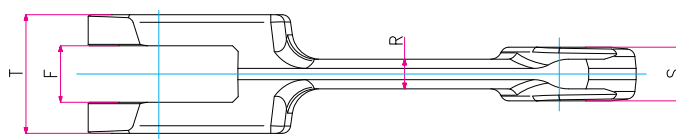
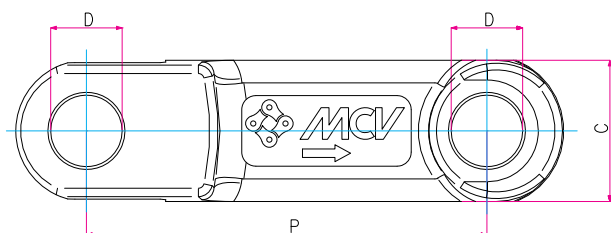




To link for passion

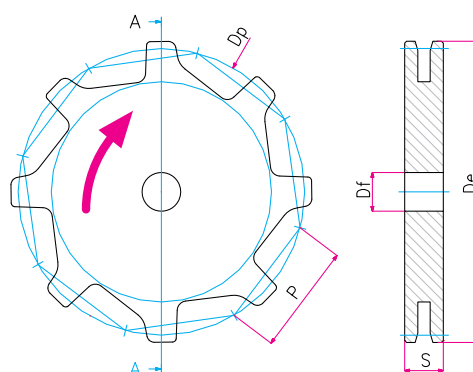
Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 14218 Drive sprockets and driven wheels for links code 14218

Chain-Forged Links
GEAR WHEELS

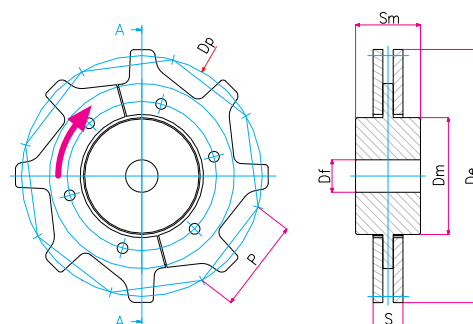
► Ruota comando monoblocco / Monobloc driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
		mm	mm	mm	mm
14218/06C	6	284,00	304	40	50
14218/07C	7	327,31	344	40	50
14218/08C	8	371,06	390	40	50
14218/09C	9	415,18	435	40	50
14218/10C	10	459,52	480	40	50
14218/11C	11	504,02	524	40	50
14218/12C	12	548,64	570	40	50
14218/13C	13	593,37	614	40	50
14218/14C	14	638,15	660	40	50
14218/15C	15	682,87	702	40	50
14218/16C	16	727,90	748	40	50



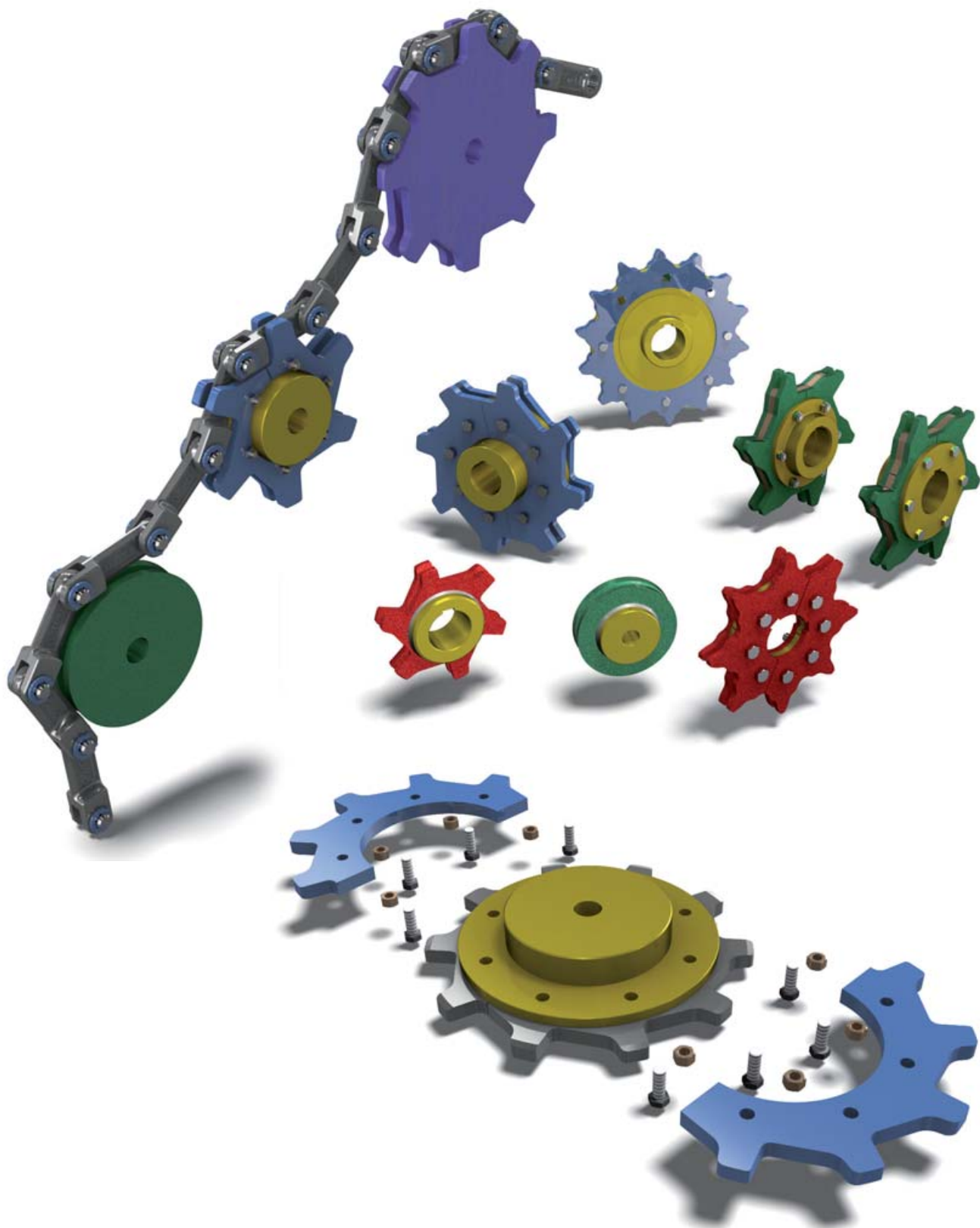
► Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
		mm	mm	mm	mm	mm	mm
14218/06CS	6	284,00	304	40	120	45	90
14218/07CS	7	327,31	344	40	150	45	100
14218/08CS	8	371,06	390	40	180	45	100
14218/09CS	9	415,18	435	40	230	45	100
14218/10CS	10	459,52	480	40	240	45	110
14218/11CS	11	504,02	524	40	280	45	110
14218/12CS	12	548,64	570	40	330	45	110
14218/13CS	13	593,37	614	40	370	45	110
14218/14CS	14	638,15	660	40	450	45	110
14218/15CS	15	682,87	702	40	470	45	130
14218/16CS	16	727,90	748	40	500	45	130





Chain-Forged Links
GEAR-WHEELS

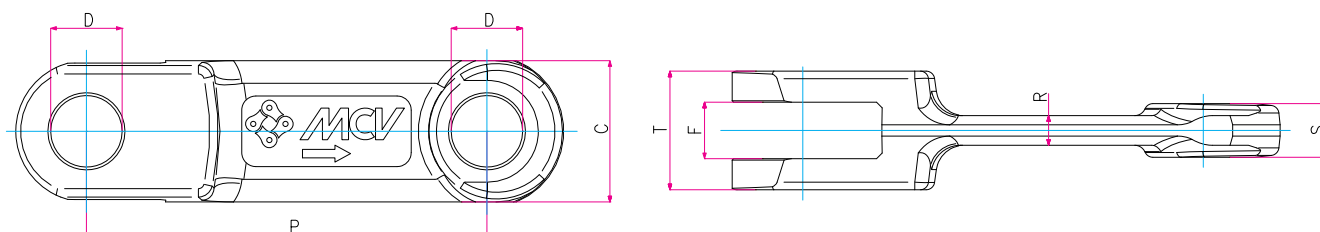




To link for passion

Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 14222 Drive sprockets and driven wheels for links code 14222

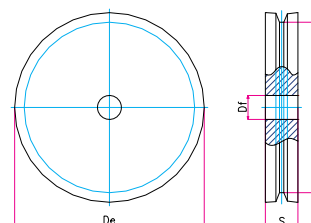
Chain-Forged Links
GEAR WHEELS

Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
14222	142	54	50	25	27	16	25	12,20

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	370	400	480	655

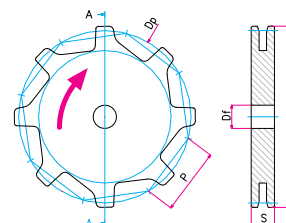
► Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
14222/06R	234	210	40	60
14222/08R	320	296	40	60
14222/10R	415	391	40	60



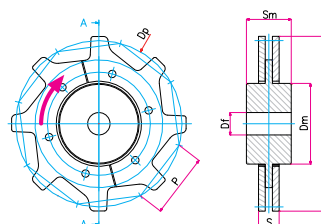
► Ruota comando monoblocco / Monobloc driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
14222/06C	6	284,00	304	40	60
14222/08C	8	371,06	390	40	60
14222/10C	10	459,52	480	40	60



► Ruota comando a settori / Sector driving-wheel

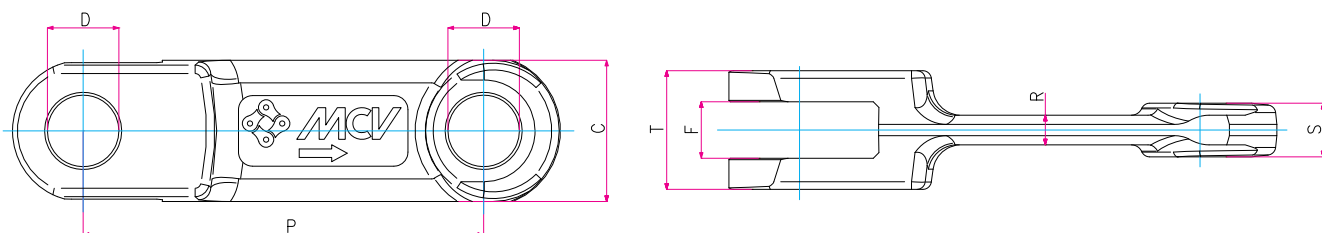
Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
14222/06CS	6	284,00	304	40	120	66	110
14222/08CS	8	371,06	390	40	180	66	110
14222/10CS	10	459,52	480	40	240	66	110





Ruote di comando e rulli di rinvio per maglia codice 14226
Drive sprockets and driven wheels for links code 14226

Chain-Forged Links
GEAR-WHEELS

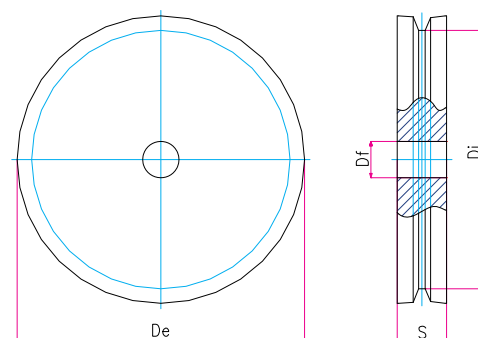


Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
	mm	mm	mm	mm	mm	mm	mm	
14226	142	62	50	28	30	15	25	13,60

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione tempr Case hardening	Cementazione tempr Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	440	470	570	790

► **Rullo di rinvio / Driven-wheel**

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
	mm	mm	mm	mm
14226/06R	234	214	40	70
14226/07R	280	260	40	70
14226/08R	320	300	50	70
14226/09R	362	342	50	70
14226/10R	415	395	50	70
14226/11R	454	434	50	70
14226/12R	500	480	50	70
14226/13R	545	525	50	70
14226/14R	588	568	50	70
14226/15R	632	612	50	70
14226/16R	677	657	50	70

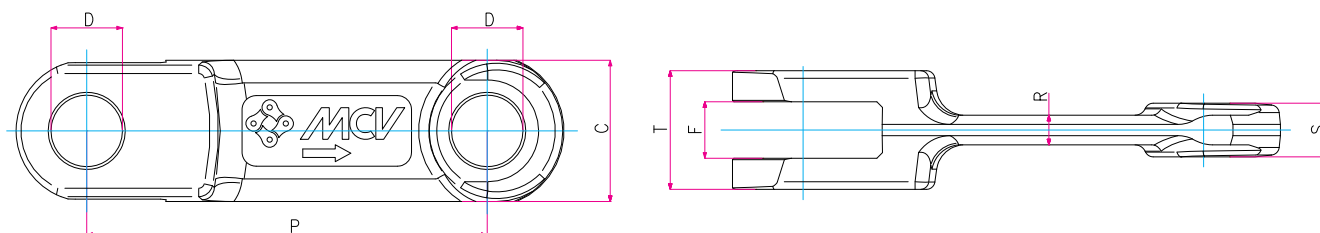




To link for passion

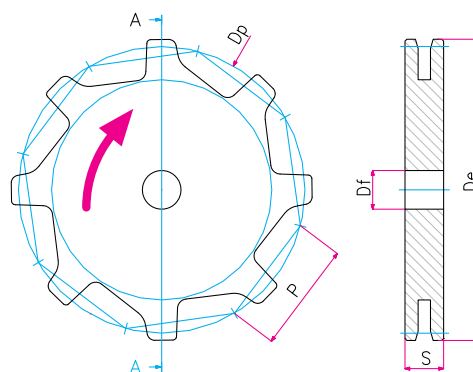
Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 14226 Drive sprockets and driven wheels for links code 14226

Chain-Forged Links
GEAR WHEELS

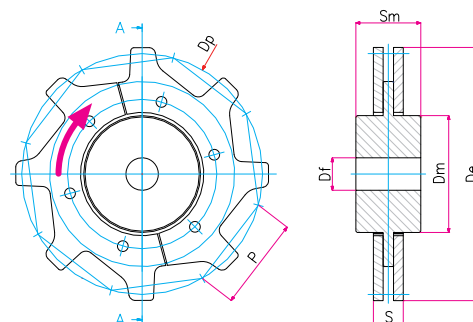
Ruota comando monoblocco / Monobloc driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
		mm	mm	mm	mm
14226/06C	6	284,00	304	40	70
14226/07C	7	327,31	344	40	70
14226/08C	8	371,06	390	40	70
14226/09C	9	415,18	435	40	70
14226/10C	10	459,52	480	40	70
14226/11C	11	504,02	524	40	70
14226/12C	12	548,64	570	40	70
14226/13C	13	593,37	614	40	70
14226/14C	14	638,15	660	40	70
14226/15C	15	682,87	702	40	70
14226/16C	16	727,90	748	40	70



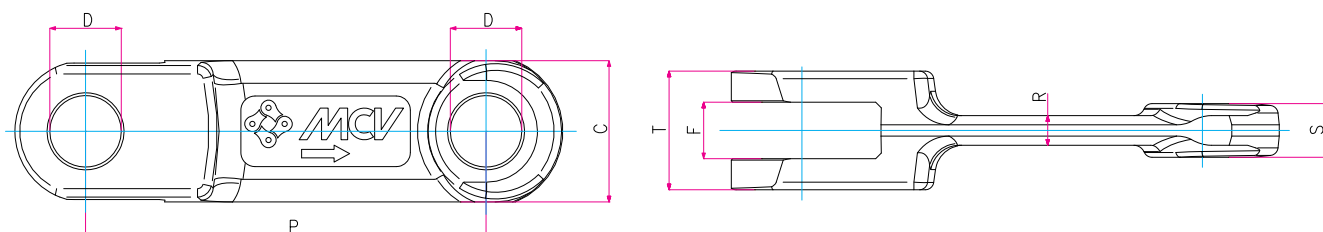
Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
		mm	mm	mm	mm	mm	mm
14226/06CS	6	284,00	304	40	120	66	90
14226/07CS	7	327,31	344	40	150	66	110
14226/08CS	8	371,06	390	40	180	66	110
14226/09CS	9	415,18	435	40	230	66	110
14226/10CS	10	459,52	480	40	240	66	110
14226/11CS	11	504,02	524	40	280	66	110
14226/12CS	12	548,64	570	40	330	66	110
14226/13CS	13	593,37	614	40	370	66	110
14226/14CS	14	638,15	660	40	450	66	110
14226/15CS	15	682,87	702	40	470	66	130
14226/16CS	16	727,90	748	40	500	66	130





Ruote di comando e rulli di rinvio per maglia codice 16025 Drive sprockets and driven wheels for links code 16025

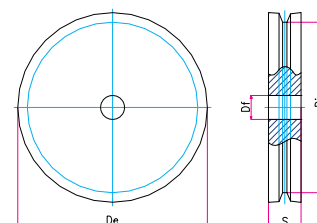
Chain-Forged Links
GEAR-WHEELS


Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
16025	160	50	53	23	25	13	25	10,80

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	370	400	480	655

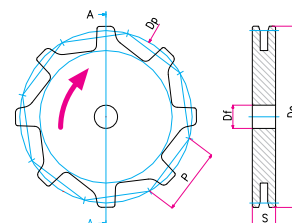
Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
16025/06R	267	240	40	60
16025/08R	365	338	40	60
16025/10R	464	437	40	60



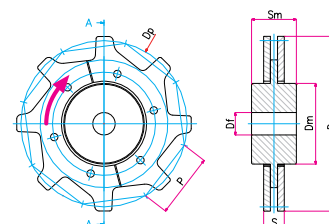
Ruota comando monoblocco / Monobloc driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
16025/06C	6	320,00	342	40	60
16025/08C	8	418,10	440	40	60
16025/10C	10	517,77	540	40	60



Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
16025/06CS	6	320,00	342	40	150	60	110
16025/08CS	8	418,10	440	40	225	60	110
16025/10CS	10	517,77	540	40	315	60	110

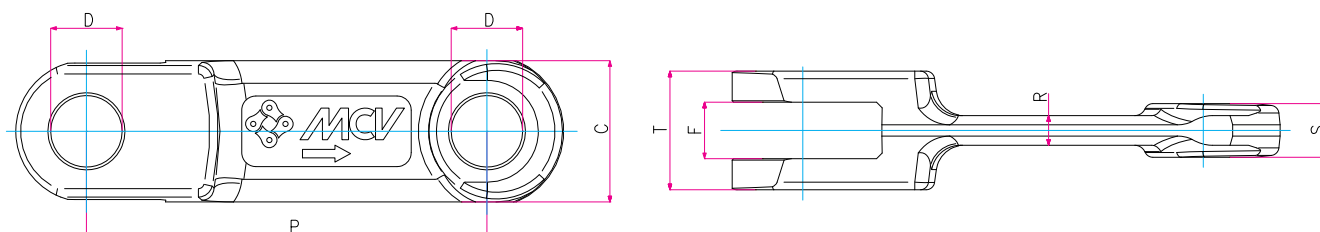




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Catene Maglie Stampate
RUOTE DENTATE

Ruote di comando e rulli di rinvio per maglia codice 20028 Drive sprockets and driven wheels for links code 20028

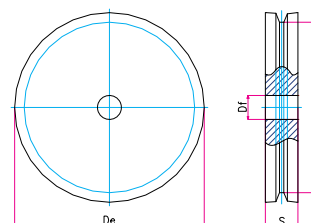
Chain-Forged Links
GEAR WHEELS

Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
20028	200	66	60	30	32	20	30	16,70

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	500	540	660	900

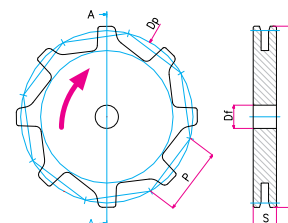
► Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
20028/08R	462	438	60	75
20028/10R	587	563	60	75
20028/12R	712	688	60	75



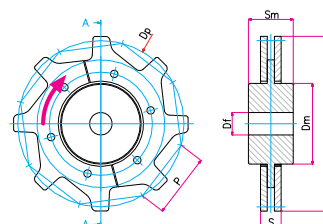
► Ruota comando monoblocco / Monobloc driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
20028/08C	8	522,40	546	60	75
20028/10C	10	647,40	672	60	75
20028/12C	12	772,80	797	60	75



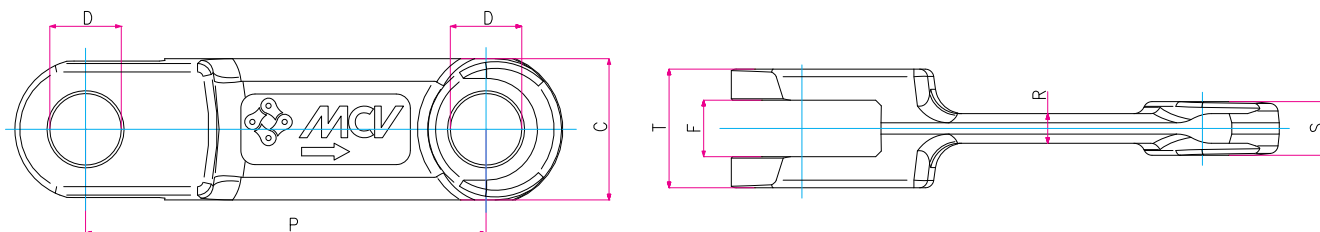
► Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm	S	Sm
20028/08CS	8	522,40	546	60	300	69	130
20028/10CS	10	647,40	672	60	400	69	130
20028/12CS	12	772,80	797	60	500	69	130





Ruote di comando e rulli di rinvio per maglia codice 26040 Drive sprockets and driven wheels for links code 26040

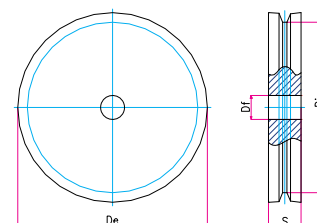
Chain-Forged Links
GEAR-WHEELS


Codice/Code	Dimensioni / Dimensions							Peso al metro Weight per meter
	P	T	C	S	F	R	D	Kg/m
26040	260	70	75	31	33	20	32	21,00

Materiali Materials	MN 18MnCrB5	CN 18NiCrMo5	C40 C45	CD 42CrMo4
Trattamento termico Heat treatment	Cementazione temprata Case hardening	Cementazione temprata Case hardening	Bonifica Hardening and tempering	Bonifica Hardening and tempering
Carico di rottura medio teorico (kN) Average theoretical breaking load (kN)	840	900	1.100	1.480

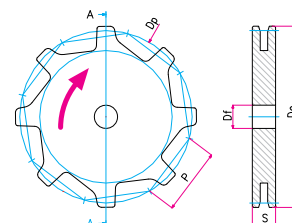
Rullo di rinvio / Driven-wheel

Codice/Code	Dimensioni / Dimensions			
	De	Di	Df	S
26040/08R	604	580	60	80
26040/10R	766	742	60	80
26040/12R	929	905	60	80



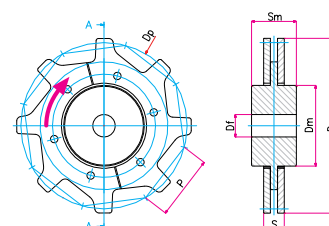
Ruota comando monoblocco / Monobloc driving-wheel

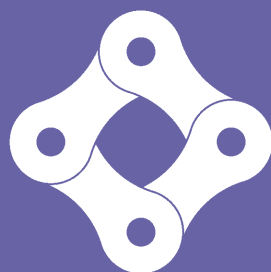
Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions			
		Dp	De	Df	S
26040/08C	8	679,41	709	60	80
26040/10C	10	841,37	870	60	80
26040/12C	12	1.004,56	1.035	60	80



Ruota comando a settori / Sector driving-wheel

Codice/Code	n° denti nr. teeth	Dimensioni / Dimensions					
		Dp	De	Df	Dm max	S	Sm
26040/08CS	8	679,41	709	60	350	76	150
26040/10CS	10	841,37	870	60	400	76	150
26040/12CS	12	1.004,56	1.035	60	550	76	150





Catene Meccaniche - *Mechanical Chains*

CATENE RASCHIANTE A PIASTRE DIRITTE - *SCRAPER CHAINS STRAIGHT SIDEPLATES*

Catene Meccaniche

CATENE RASCHIANTI A PIASTRE DIRITTE



Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES



Composizione di una catena meccanica

Una catena è un organo meccanico che, nella sua forma più semplice, è caratterizzato da cinque elementi: rulli, bussole, che insieme alle piastre interne, formano la maglia interna; mentre i perni, insieme alle piastre esterne, formano la maglia esterna. L'articolazione e quindi la possibilità di ingranare su di una ruota dentata, è resa possibile dal gioco esistente tra bussola e perno, il primo dei quali presenta un diametro interno leggermente superiore rispetto al secondo.

Le principali dimensioni di una trasmissione a catena sono: il passo (P), il diametro dei rulli (Dr) o il diametro bussola (Db) e la larghezza interna (Li). Il passo è la misura che identifica la distanza nominale tra i due perni consecutivi di una catena; il diametro rullo o il diametro bussola indicano i rispettivi diametri esterni; mentre la larghezza interna è la distanza tra le due facce delle piastre interne. Una catena è una successione di maglie interne ed esterne che articolano tra di loro dando luogo ad un organo flessibile per una trasmissione di moto.

Maglia interna

È formata da due piastre. Ciascuna piastra presenta due fori dove vengono forzate le bussole. Sulle bussole vengono montati i rulli che hanno lo scopo di ridurre l'attrito durante l'ingranamento con la ruota dentata. Nelle catene a bussole, mancano i rulli.

Maglia esterna

È formata da due piastre. I perni, passanti all'interno dei fori delle bussole, e forzati all'interno dei fori delle piastre esterne, sono l'elemento di collegamento alle maglie interne. Possono esistere svariate tipologie di perni: non smontabili o smontabili.

Maglia giunto

È una maglia esterna smontabile e viene utilizzata per congiungere uno o più spezzoni di catena.

Maglia falsa

È una maglia speciale, smontabile, che permette di ottenere spezzoni di catena con passi dispari. È formata da: un rullo, una bussola, un perno e due piastre piegate. La maglia falsa funziona quindi per metà come maglia interna e per metà come maglia esterna.

Materiali e trattamenti termici

Riportiamo di seguito alcune indicazioni sul tipo di acciaio generalmente utilizzato per le catene meccaniche.

La scelta del tipo di acciaio deve essere fatta sulla base delle condizioni di esercizio della catena o su indicazione del costruttore dell'impianto di cui la catena è parte.

Piastre

- Acciaio al carbonio non trattato o trattato
- Acciaio legato non trattato o trattato
- Acciaio Inox

Perni

- Acciaio al carbonio trattato
- Acciaio legato trattato
- Acciaio Inox

Bussole

- Acciaio al carbonio trattato
- Acciaio legato trattato
- Acciaio Inox

Rulli

- Acciaio al carbonio trattato
- Acciaio legato trattato
- Acciaio Inox

Attacchi

- Acciaio Dolce



To link for passion

Catene Meccaniche

CATENE RASCHIANTI A PIASTRE DIRITTE



Connecting link

It is a demontable outer link and it is used to connect one or more chain lengths together.

Off-set link

It is a special demontable link which permits to obtain chain lengths with an odd number of pitches. It is composed by: one roller, one bushing, one pin and two bent sideplates. The off-set sideplate works half as inner link and half as outer link.

Materials and heat treatments:

We give you as follows some indications on the type of steels generally used for mechanical chains. The choice must depend on the working conditions of the chain or on the information given by the plant manufacturer of which the chain is constituent element.

Sideplates

- Carbon steel treated or untreated
- Alloy steel treated or untreated
- Stainless steel

Pins

- Carbon steel treated or untreated
- Alloy steel treated or untreated
- Stainless steel

Bushings

- Carbon steel treated
- Alloy steel treated
- Stainless steel

Rollers

- Carbon steel treated
- Alloy steel treated
- Stainless steel

Attachments

- Mild steel

How is a chain made up

Chains are mechanical components in their simplest conception composed by five elements: roller, bushings, assembled with inner sideplates are forming the inner link; while pins together with sideplates form the outer link. The chain articulation that is the ability to engage on a toothed wheel is made possible by the gap between the bushing and the pin, the bushing presenting a slightly bigger diameter respect to the pin.

The main dimensions of a chain transmission are: the pitch (P), the roller diameter (Dr) or the bush diameter (Db), and the inner width (Li). The pitch dimension is the nominal distance between two consecutive pins of the chain; the roller and the bush diameter correspond to the respective outer diameters; the inner width is the distance between the inner sides of the inner sideplates. Chains are made by sequences of inner and outer links articulating together and become a flexible part of the drive transmission.

Inner link

It is composed by two sideplates. Each sideplate has two bores into which bushings are forced. Rollers are mounted on the bushings and reduce the friction while they engage the toothed wheel. In the chains named "bush chains" the rollers are not present.

Outer link

It is composed by two sideplates. The pins pass through the bores of the bushings, they are forced into the outer sideplates and by that the linking element of the inner links. They can be supplied in two different types: undetachable and detachable.

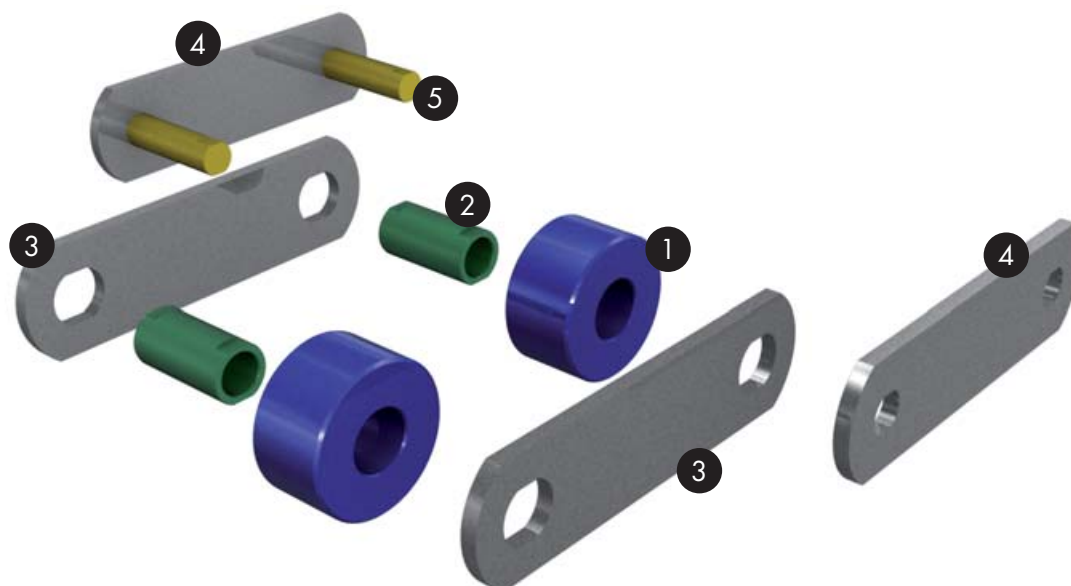


Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES



Composizione di una catena / Chain composition

Mechanical Chains
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1 Rulli

I rulli ruotano generalmente sulle bussole e svolgono due funzioni: ridurre il coefficiente d'attrito sui trasportatori; ridurre al minimo l'attrito sui pignoni quando la catena entra ed esce dai denti di un pignone. I rulli possono essere temprati oppure cementati.

2 Bussole

Le bussole costituiscono la struttura portante per la rotazione del perno nell'articolazione sopra ad un pignone. Inoltre servono come superficie portante per i rulli della catena, oppure per il contatto sui pignoni quando la catena è senza rulli. Generalmente sono cementate.

3 4 Piastre (interne e esterne)

Le piastre sono elementi di trazione della catena e determinano il passo della stessa. Possono essere disassate, dritte o di qualsiasi altra forma. Per una maggiore resistenza e durata, le piastre, possono essere trattate a caldo.

5 Perni

I perni collegano le maglie della catena. Sono fermati nelle piastre per mezzo di un accoppiamento (d'interferenza) in modo tale che la rotazione avviene tra il perno e la bussola. I perni possono essere fornitati trattati a caldo e non, oppure cementati e temprati; dipende solitamente dal tipo di applicazione.

1 Rollers

The rollers generally rotate in the bushing and have two functions: to reduce the coefficient of friction on conveyors; to minimize the friction on sprockets as the chain engages and disengages the teeth of the same. Rollers can be either hardened or case hardened.

2 Bushing

The bushings constitute the bearing structure in the rotation of the pin articulating over a sprocket. They serve also as a bearing surface for the rollers of the chain or, if the chain has no rollers, for the contact with the sprocket. They are generally case hardened.

3 4 Plates (inner and outer)

The plates are the traction members of the chain and determine its pitch. They can be off-set, straight or of any other shape. In order to guarantee a major resistance and longer service life, the plates can be heat treated.

5 Pins

The pins connect the chain links. They are locked in the plates by a coupling (of interference) so that the rotation takes place between the pin and the bushing. The pins can be supplied either with or without heat treatment or case hardened, usually depending on the type of application.



To link for passion

Catene Meccaniche

CATENE RASCHIANTI A PIASTRE DIRITTE



Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES

L'articolazione della catena ed il continuo attrito tra il diametro esterno del perno ed il diametro interno della bussola provocano fenomeni di usura con conseguente aumento dei giochi e riduzione nella vita utile della catena stessa.

Per limitare l'usura nell'articolazione tra perno e bussola è necessario eseguire dei trattamenti termici di indurimento superficiale su queste parti, e questi trattamenti devono essere eseguiti secondo i più alti standard qualitativi.

MCV dispone di una linea di trattamento termico di ultima generazione, che consente di eseguire, controllare e certificare tutti i trattamenti termici sulle parti delle catene e degli accessori.

Nella tabella di seguito riportiamo i materiali standard impiegati ed i relativi trattamenti termici.

The articulating of the chain with continuous friction between the pin outer diameter and the inner bush diameter, causes wearing, with consequent increase of the clearances and reduction of the running life of the chain itself.

To prevent this articulation wearing the most, it becomes necessary to carry out heat treatments of hardening on the surface of these parts, treatments to be performed according to the highest quality standards.

MCV is equipped with an heat treatment line of high technologic level, able to execute, check and certify all the heat treatments on the parts of the chains and accessories.

Kindly please refer to the following table with our standard materials and correspondent heat treatments.

COMPONENTI CATENA CON MATERIALI E TRATTAMENTI TERMICI CHAIN PARTS WITH MATERIALS AND HEAT TREATMENTS			
PIASTRE/PLATES	PERNI/PINS	BUSSOLE/BUSHES	RULLI/ROLLERS
AC	AC/BON	AC/CT	AC/CT
AC/BON	AL/CT	AC/BON+TI	AC/BON
AL/BON	AL/BON+TI	AL/CT	AC/BON+TI
SS3	AC/BON+TI	AL/BON+TI	AL/CT
	SS3	SS3	AL/BON
	SS4/BON	SS4/BON	AL/BON+TI
	SS4/BON+TI		SS3
			SS4/BON
			SS4/BON+TI

MATERIALI - MATERIALS

AC - Acciaio al carbonio - Carbon Steel

AL - Acciaio legato - Alloyed Steel

SS3 - Acciaio INOX Serie 300 - Stainless Steel Series 300

SS4 - Acciaio INOX Serie 400 - Stainless Steel Series 400

TRATTAMENTI TERMICI - HEAT TREATMENTS

ACCIAIO AL CARBONIO - CARBON STEEL

Bonifica - Hardening and Tempering

(BON)

Bonifica + Tempra ad Induzione - Harden. and tempering + Induction Hardening

(BON+TI)

Cementazione + Tempra - Case Hardening

(CT)

ACCIAIO LEGATO - ALLOYED STEEL

Bonifica - Hardening and Tempering

(BON)

Bonifica + Tempra ad Induzione - Harden. and tempering + Induction Hardening

(BON+TI)

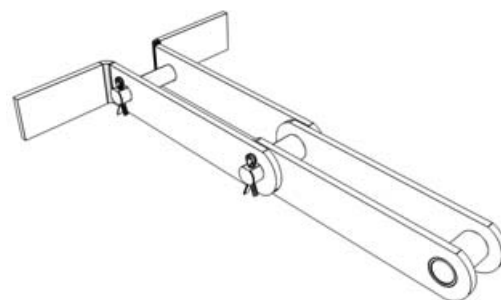
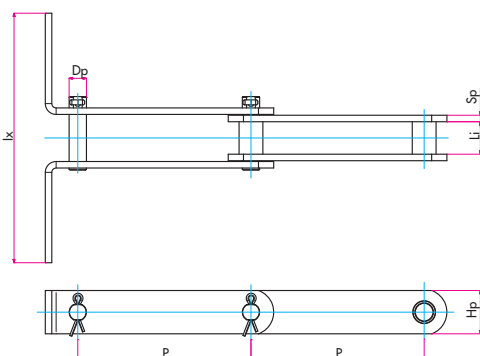
Cementazione + Tempra - Case Hardening

(CT)



> Catene raschianti a piastre dritte
Scraper chains straight sideplates

Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES



► Standard d'officina / Workshop standard

Codice/Code	Dimensioni / Dimensions							Carico minimo di rottura Minimum breaking load	
	P	Li	Db	Dp	Hp	Sp	Lx		
	mm	mm	mm	mm	mm	mm	mm		
7540	75	18	15	10	25	4	Misure a richiesta Measures upon request	40	
10040	100								
12540	125								
15040	150	20	17	11	30	4			50
7550	75								
10050	100								
12550	125	22	18	12	30	5			58
15050	150								
10058	100								
12558	125	25	20	14	35	5			65
15058	150								
20058	200								
10065	100	30	22	16	40	6			84
12565	125								
15065	150								
20065	200	40	27	18	50	6			110
10084	100								
12584	125								
15084	150	45	30	20	50	8			140
20084	200								
150140	150								
175140	175	55	36	26	60	8			200
200140	200								
250140	250								
150200	150	55	36	26	60	8			200
175200	175								
200200	200								
250200	250								

Le catene possono essere fornite ribadite o copigliate ambo i lati.
The chains can be supplied riveted or cottered on both sides.

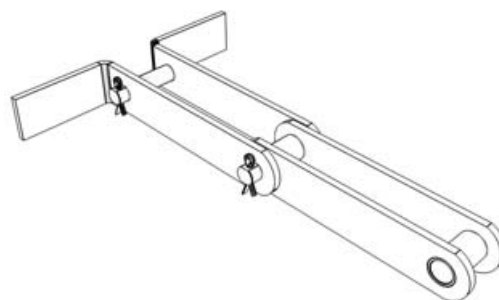
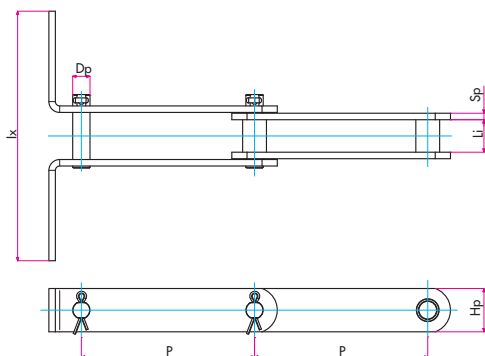


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Catene Meccaniche

CATENE RASCHIANTI A PIASTRE DIRITTE

Catene raschianti a piastre dritte
Scraper chains straight sideplates



Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES

► Serie DIN 8165 / DIN 8165 series

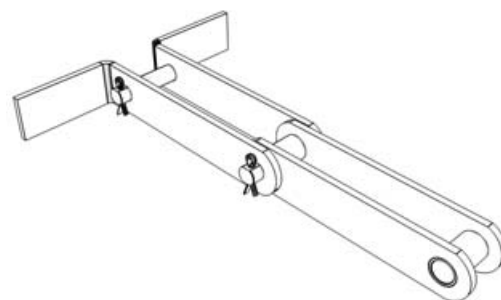
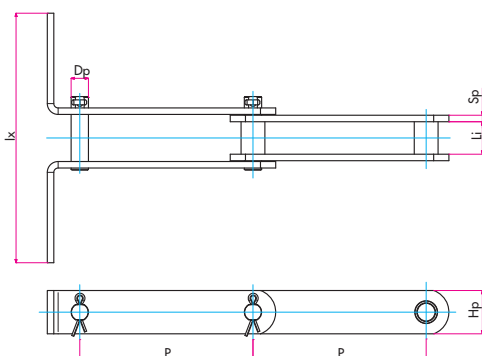
Codice/Code	Dimensioni / Dimensions							Carico minimo di rottura <i>Minimum breaking load</i>
	P	Li	Db	Dp	Hp	Sp	lx	
	mm	mm	mm	mm	mm	mm	mm	
FVR 040/040/P	40	18	15	10	25	3	↑ Misure a richiesta <i>Measures upon request</i> ↓	40
FVR 040/063/P	63							
FVR 040/080/P	80							
FVR 040/100/P	100							
FVR 063/063/P	63	22	18	12	30	4		63
FVR 063/100/P	100							
FVR 063/125/P	125							
FVR 063/160/P	160							
FVR 090/100/P	100	25	20	14	35	5		90
FVR 090/125/P	125							
FVR 090/160/P	160							
FVR 090/200/P	200							
FVR 112/100/P	100	30	22	16	40	6		112
FVR 112/125/P	125							
FVR 112/160/P	160							
FVR 112/200/P	200							
FVR 140/100/P	100	35	26	18	45	6		140
FVR 140/125/P	125							
FVR 140/160/P	160							
FVR 140/200/P	200							
FVR 180/125/P	125	45	30	20	50	8		180
FVR 180/160/P	160							
FVR 180/200/P	200							
FVR 180/250/P	250							
FVR 250/125/P	125	55	36	26	60	8		250
FVR 250/160/P	160							
FVR 250/200/P	200							
FVR 250/250/P	250							
FVR 315/160/P	160	65	42	30	70	10		315
FVR 315/200/P	200							
FVR 315/250/P	250							
FVR 315/315/P	315							

Le catene possono essere fornite ribadite o copigliate ambo i lati.
The chains can be supplied riveted or cottered on both sides.



> Catene raschianti a piastre dritte
Scraper chains straight sideplates

Mechanical Chains
SCRAPER CHAINS STRAIGHT SIDEPLATES



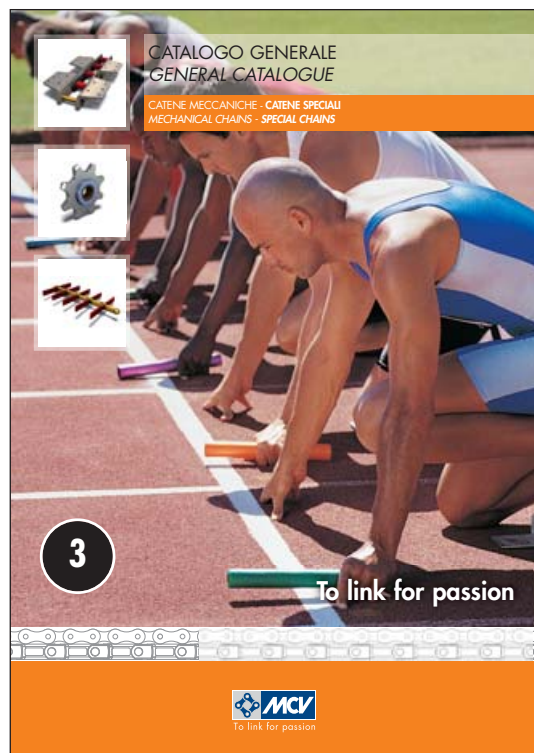
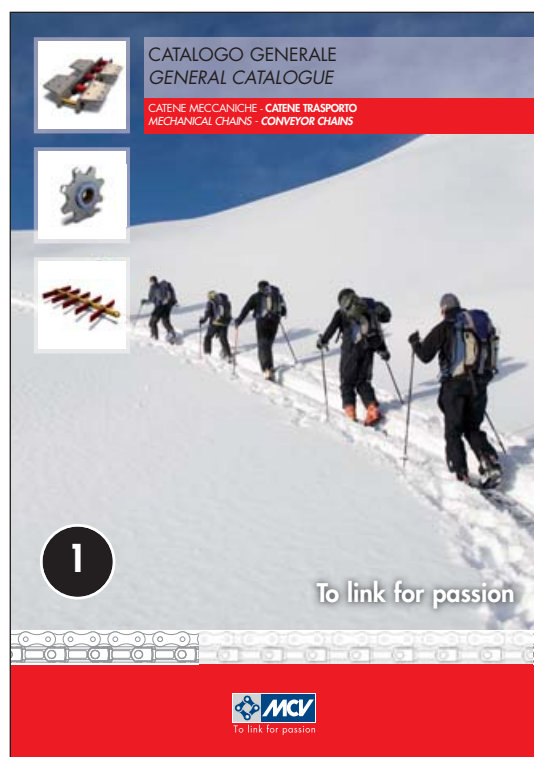
► Serie ISO 1977 - DIN 8167 / ISO 1977 - DIN 8167 series

Codice/Code	Dimensioni / Dimensions							Carico minimo di rottura Minimum breaking load kN
	P	Li	Db	Dp	Hp	Sp	Lx	
	mm	mm	mm	mm	mm	mm	mm	
MR 056/063/P	63	24	15	10	30	4	↑	56
MR 056/080/P	80							
MR 056/100/P	100							
MR 056/125/P	125							
MR 056/160/P	160	28	18	12	35	5	↑	80
MR 080/080/P	80							
MR 080/100/P	100							
MR 080/125/P	125							
MR 080/160/P	160	32	21	15	40	6	↑	112
MR 080/200/P	200							
MR 112/080/P	80							
MR 112/100/P	100							
MR 112/125/P	125	36	25	18	50	7	↑	160
MR 112/160/P	160							
MR 112/200/P	200							
MR 160/100/P	100							
MR 160/125/P	125	42	30	21	60	8	↑	224
MR 160/160/P	160							
MR 160/200/P	200							
MR 160/250/P	250							
MR 224/125/P	125	48	36	25	70	10	↑	315
MR 224/160/P	160							
MR 224/200/P	200							
MR 224/250/P	250							
MR 315/160/P	160	48	36	25	70	10	↑	315
MR 315/200/P	200							
MR 315/250/P	250							
MR 315/315/P	315							

Le catene possono essere fornite ribadite o copigliate ambo i lati.
The chains can be supplied riveted or cottered on both sides.

Altri prodotti MCV

Other MCV products



- 1
CATENE MECCANICHE
CATENE TRASPORTO
MECHANICAL CHAINS
CONVEYOR CHAINS
- 2
CATENE MAGLIE STAMPATE
CATENE RASCHIANTI
A MAGLIE STAMPATE
CHAINS FORGED LINKS
SCRAPER CHAINS FORGED LINKS
- 3
CATENE MECCANICHE
CATENE RASCHIANTI
A PIASTRE DIRITTE
MECHANICAL CHAINS
SCRAPER CHAINS STRAIGHT
SIDEPLATES
- 4
CATENE MECCANICHE
CATENE SPECIALI
MECHANICAL CHAINS
SPECIAL CHAINS
- 4
CATENE MECCANICHE
CATENE PER TRASMISSIONE
DI POTENZA E TRAZIONE
MECHANICAL CHAINS
POWER TRANSMISSION AND
TRACTION CHAINS



Unità produttiva di Viganò Brianza
Production unit of Viganò Brianza



Unità produttiva di Missaglia
Production unit of Missaglia



To link for passion

Manifattura Catene Viganò M.C.V. Spa
 Via dell'Industria, 11 - 23897 Viganò (LC) Italy
 Tel. +39 039 92134.1 - Fax +39 039 92134.25
mcv.catene@mcvcatene.com - www.mcvcatene.com