

SCAMBIATORI DI CALORE IN ALLUMINIO
ALUMINIUM HEAT EXCHANGERS
ALUMINIUM WÄRMETAUSCHER

AZIONAMENTO IDRAULICO
HYDRAULIC DRIVEN
HYDRAULISCHER ANTRIEB

HY004



FIRA S.p.A.

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L'AZIENDA

La FIRA è stata fondata nel 1967 come azienda per la produzione di radiatori da impiegarsi su veicoli industriali, agricoli ed automobilistici prodotti nell'area Emiliana. In seguito, per soddisfare le esigenze tecniche sempre crescenti della clientela si è stata sviluppata anche la produzione di scambiatori di calore per olio richiesti dagli impianti presenti sulle macchine. Nel 1987 la FIRA è entrata a far parte della Bondioli & Pavesi, un importante gruppo leader nel settore della trasmissione di potenza. Questo ha garantito all'Azienda una presenza sui mercati internazionali e ha dato la possibilità di affrontare e risolvere problematiche per la clientela di tutto il mondo.

Nella conseguente fase di investimenti atti a sviluppare nuove soluzioni produttive, la FIRA si è evoluta tecnologicamente con particolare attenzione alla qualità dei prodotti forniti.

PRODOTTI

La FIRA propone una gamma di prodotti che si sviluppa su tre linee:

- Radiatori acqua aria destinati a vari settori di utilizzo quali trattori agricoli, piccole auto e in genere forniture al primo impianto.
- Scambiatori di calore standard olio aria in alluminio completi di elettroventole a 12, 24, 220 o 380 volt oppure completi di motore idraulico e ventola destinati a tutte le applicazioni oleodinamiche.
- Radiatori combinati acqua olio e intercooler destinati a macchine industriali mobili quali pale, escavatori, terne, gru semoventi, portacontainers, macchine edili e stradali ecc.

THE COMPANY

FIRA was founded in 1967 as a manufacturer of radiators for industrial, agricultural and automotive vehicles made in Emilia, northern Italy.

In response to growing user demands, the firm's area of specialisation was soon extended to embrace a production programme of oil to air heat exchangers for vehicle hydraulic systems.

In 1987 FIRA was incorporated by Bondioli & Pavesi, a major international group in the power transmission sector. This guaranteed the firm outlets on international markets and gave it access to the resources needed to solve clients' problems all over the world.

During subsequent investments to support new production solutions, FIRA concentrated on developing its technological resources, placing considerable emphasis on end-product quality.

PRODUCTS

FIRA's production programme is articulated in three basic lines:

- *Air to water radiators for various application sectors including agricultural tractors, 'city cars' and small vehicles and supplies to original equipment manufacturers in general.*
- *Standard oil to air heat exchangers made of aluminium complete with 12, 24, 220 and 380 volt electric fan units or with hydraulic motors and fans designed for use with the broadest possible range of hydraulic systems.*
- *Combined water to oil radiators and intercoolers for moving industrial machines including excavators, backhoes, self-propelled cranes, container handlers and building construction / road construction machinery.*

UNTERNEHMENSENTWICKLUNG

Das Unternehmen FIRA wurde 1967 gegründet und fertigt seither Kühler für industriell und landwirtschaftlich genutzte Fahrzeuge sowie Automobile, die in der italienischen Region Emilia produziert werden.

Um den kontinuierlich steigenden technischen Anforderungen der Kundschaft gerecht zu werden, wurde anschließend die Produktion auf Wärmetauscher für Öl der in Maschinen und Fahrzeugen installierten Anlagen ausgeweitet. Im Jahr 1987 schloß sich FIRA der Firma Bondioli & Pavesi, einer großen, im Sektor Kraftübertragung führenden Firmengruppe an, wodurch dem Unternehmen der Weg zu internationalen Märkten geöffnet und die Möglichkeit gegeben wurde, Lösungen für Problemstellungen von Kunden aus aller Welt auszuarbeiten.

In den folgenden Jahren, die sich durch umfassende Investitionen für neue Lösungen in der Produktion auszeichnen, hat FIRA technologisch einen großen Fortschritt erfahren, wobei insbesondere der Produktqualität ein besonderer Stellenwert zugemessen wurde.

PRODUKTPALETTE

Die FIRA-Produktpalette läßt sich folgendermaßen unterteilen:

- Wasser-Luft-Kühler für verschiedene Sektoren wie landwirtschaftlich genutzte Traktoren, Kleinwagen, auch als Zulieferteile für Originalanlagen im allgemeinen.
- Standard-Öl-Luft-Wärmetauscher aus Aluminium mit Elektrolüftern von 12, 24, 220 oder 380 Volt bzw. komplett mit Hydraulikmotor und Lüfter für sämtliche hydraulische Anwendungen.
- Kombinierte Wasser-Öl-Kühler und Intercooler für unterschiedliche Nutzfahrzeuge wie Schaufellader, Bagger, kombinierte Traktoren-Bagger, Selbstfahrräner, Containerfahrzeuge, Fahrzeuge für Hoch- und Tiefbau etc.

INTRODUZIONE FOREWORD EINLEITUNG

PERSONALIZZAZIONE

Alla FIRA ogni cliente ed ogni esigenza sono considerate nella loro unicità. Per questo in primo luogo valutiamo attentamente ogni richiesta e poi ne delineiamo le possibili soluzioni. E' con questa metodologia affermata giorno dopo giorno nella realizzazione di prodotti mirati alle necessità della clientela, che l'Azienda ha formato i propri collaboratori creando un forte patrimonio tecnologico.

ISTRUZIONI GENERALI DI IMPIEGO

Gli scambiatori di calore FIRA sono costruiti in lega di alluminio e saldobrasati, un processo produttivo moderno che garantisce un prodotto di grande affidabilità.

Le geometrie delle alette a contatto con l'aria e le geometrie dei passaggi interni dell'olio sono studiate per garantire la massima efficienza del sistema. Inoltre l'attenta scelta delle elettrovalvole o delle ventole azionate da motore idraulico e dei convogliatori in ABS garantiscono un insieme che consente grandi rese pur tenendo in massima considerazione i parametri di sicurezza e di rumorosità.

INSTALLAZIONE

Per una corretta installazione si consiglia di adottare dei supporti elastici e di montare lo scambiatore in una zona con ridotte vibrazioni ed urti. Inoltre il posizionamento deve consentire all'aria libera circolazione sia in aspirazione che in scarico (Fig.1). Evitare che l'aria sia riscaldata da componenti esterni tipo marmitte motori o altro.

Si raccomanda di evitare brusche variazioni di portata e di non superare la pressione di esercizio statica massima ammissibile che è di 15 bar ad una temperatura di 130°C.

Per la sicurezza dello scambiatore si suggerisce l'installazione di una valvola di bypass, questo consentirà di ridurre i rischi in avviamento dell'impianto a freddo (Fig.2).

PERSONALIZATION

FIRA considers the unique needs of each client and each application. That's why each request is carefully evaluated before we propose suitable design solutions. This is the method applied on a day to day basis as we develop fully tailored products, and it has formed the ideal training environment for our personnel, supporting the accumulation of an impressive store of technological know-how.

CONSTRUCTION FEATURES

FIRA heat exchangers are built in brazed aluminium alloy in a thoroughly modern process that guarantees top quality totally reliable results.

The geometry of the tube fins in the air stream and the inside of the oil-ways is designed to support the maximum efficiency of the system. The same meticulous attention is applied to selecting electric fan units or hydraulically driven fans and ABS shrouds, to assure a finished product that guarantees maximum efficiency and exemplary safety and noise levels.

INSTALLATION

For correct installation use flexible supports and install the heat exchanger in a place that is protected from vibration and impact. The unit must also be mounted so as to ensure unrestricted intake and exhaust air flows (Fig.1). All possible measures must be taken to prevent the heat exchanger from drawing in warm air heated by external components such as engine exhaust systems.

We also recommend avoiding sudden changes of flow rate and ensuring that the maximum permissible static working pressure of 15 bar at 130°C is not exceeded.

For increased safety of the unit, clients are advised to install a bypass valve to reduce start up risks when the system is cold (Fig.2).

PERSONALISIERUNG

Jeder Kunde und jede Anfrage erfährt bei FIRA eine den jeweiligen Anforderungen entsprechende Behandlung. Die Anfragen werden zunächst sorgfältig ausgewertet, anschließend erfolgt die Ausarbeitung möglicher Lösungen. Mit dieser Vorgehensweise, die sich für die Umsetzung kundenseitiger Wünsche täglich neu bestätigt, hat das Unternehmen die Ausbildung der eigenen Mitarbeiter optimiert und sich ein umfassendes technisches Know-how zugelegt.

ALLGEMEINE GEBRAUCHSANLEITUNG

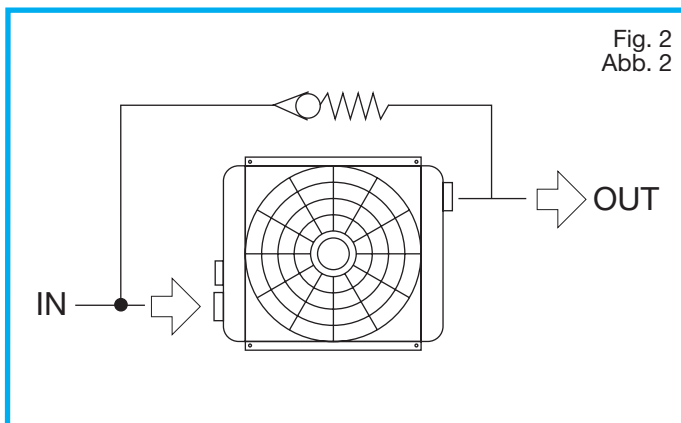
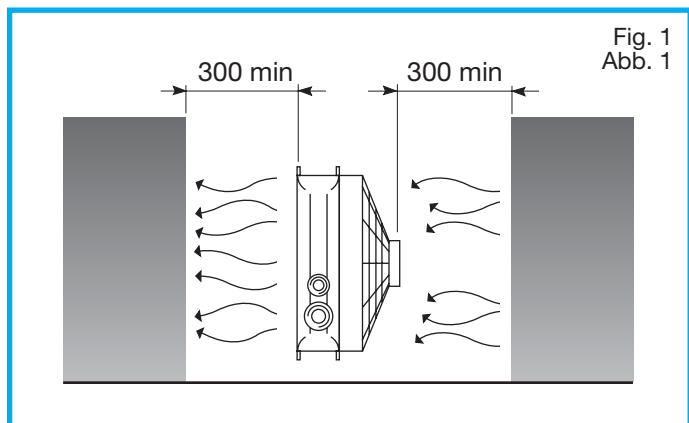
Die FIRA-Wärmetauscher sind aus Aluminiumlegierung mit Schweißlötung gefertigt, ein modernes Produktionsverfahren, das eine hohe Zuverlässigkeit der Produkte gewährleistet.

Form und Größe der Kühlrippen mit Luftkontakt und der innenliegenden Öldurchläufe sind so projektiert, daß die maximale Leistungsabgabe des Systems sichergestellt wird. Die sorgfältig ausgewählten Elektrolüfter, Lüfter mit Hydraulikmotorantrieb und Fördervorrichtungen in ABS werden höchsten Ansprüchen gerecht und weisen optimierte Eigenschaften bezüglich Sicherheit und Geräuschemissionen auf.

INSTALLATION

Zur korrekten Installation empfiehlt sich die Verwendung von schwingungsdämpfenden Halterungen; die Montage des Wärmetauschers ist zudem in Bereichen vorzunehmen, in denen Vibrationen oder Stöße nur in reduziertem Maße zu erwarten sind und eine freie Luftzirkulation sowohl für die Ansaugung als auch für den Auslaß sichergestellt ist (Abb. 1). Bei der Positionierung ist ferner zu beachten, daß die Luft nicht durch außenliegende Teile, z.B. Auspuff oder dergleichen, erwärmt wird. Beim Betrieb ist darauf zu achten, daß plötzliche Änderungen der Durchflußmenge vermieden werden und der maximal zugelassene statische Druck von 15 bar bei einer Temperatur von 130°C nicht überschritten wird.

Zur Sicherheit des Wärmetauschers ist die Installation eines Bypass-Ventils vorzusehen, welches die Risiken bei einem Kaltstart der Anlage reduziert (Abb. 2).



A causa delle svariate condizioni di montaggio e delle differenti sollecitazioni alle quali risultano sottoposti gli scambiatori di calore, riteniamo sia utile ed importante chiedere la collaborazione della nostra organizzazione tecnica al momento della progettazione dell'impianto.

Ogni scambiatore di calore è dotato di un libretto di istruzioni che contiene alcune fondamentali indicazioni per un montaggio corretto.

SICUREZZA

Nell'utilizzo dello scambiatore di calore occorre attenersi ad alcune importanti avvertenze.

- non togliere le protezioni dalle ventole.
- far eseguire i collegamenti elettrici a personale specializzato seguendo gli schemi allegati.
- le superfici esterne dello scambiatore potrebbero avere temperature molto elevate bisogna quindi prevedere nel montaggio adeguate protezioni, o posizionamenti poco accessibili.
- non intervenire sul motore idraulico senza prima avere scollegato i tubi.

Because of the differing installation conditions and the various type of stress to which the units may be subjected, we advise clients to consult our Engineering Department during their system design phase.

Each heat exchanger is supplied with a comprehensive instruction booklet that contains important recommendations for correct installation.

SAFETY

During operation of our heat exchangers observe the following instructions:

- *do not remove the fan grilles*
- *electrical connections must be made by skilled electricians in accordance with the attached electrical diagrams*
- *exterior surfaces of the heat exchanger may reach high temperatures so adequate guards must be installed or the unit must be mounted in an inaccessible position.*
- *do not perform work on the hydraulic motor until the hydraulic pipelines have been disconnected.*

Aufgrund der unterschiedlichen Montagebedingungen und der verschiedenen Belastungen, denen die Wärmetauscher ausgesetzt sein können, empfiehlt sich bei der Projektierung der Anlage die Zusammenarbeit mit unserer technischen Abteilung.

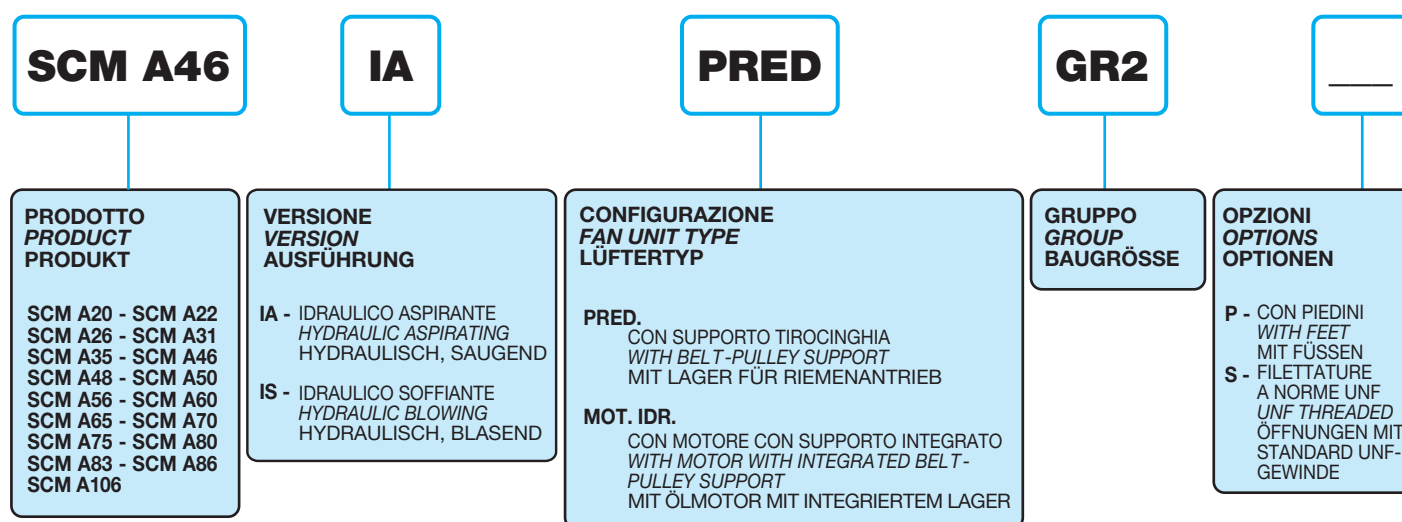
Zum Lieferumfang jedes Wärmetauschers zählt eine entsprechende Gebrauchsanleitung mit den wesentlichen Hinweisen für eine korrekte Montage.

SICHERHEIT

Beim Gebrauch des Wärmetauschers sind folgende wichtige Hinweise zu beachten:

- Schutzvorrichtungen an den Lüftern auf keinen Fall abnehmen;
- elektrische Anschlüsse von Fachpersonal und gemäß den beiliegenden Plänen ausführen lassen;
- die Außenoberflächen des Wärmetauschers können beim Betrieb sehr hohe Temperaturen aufweisen; bei der Montage sind demnach entsprechende Schutzvorrichtungen vorzusehen oder schwer erreichbare Positionen auszuwählen;
- Eingriffe am Hydraulikmotor nur nach Abnahme der Leitungen vornehmen.

ISTRUZIONI PER L'ORDINAZIONE ORDERING INSTRUCTIONS BESTELLANLEITUNG



NOTA:

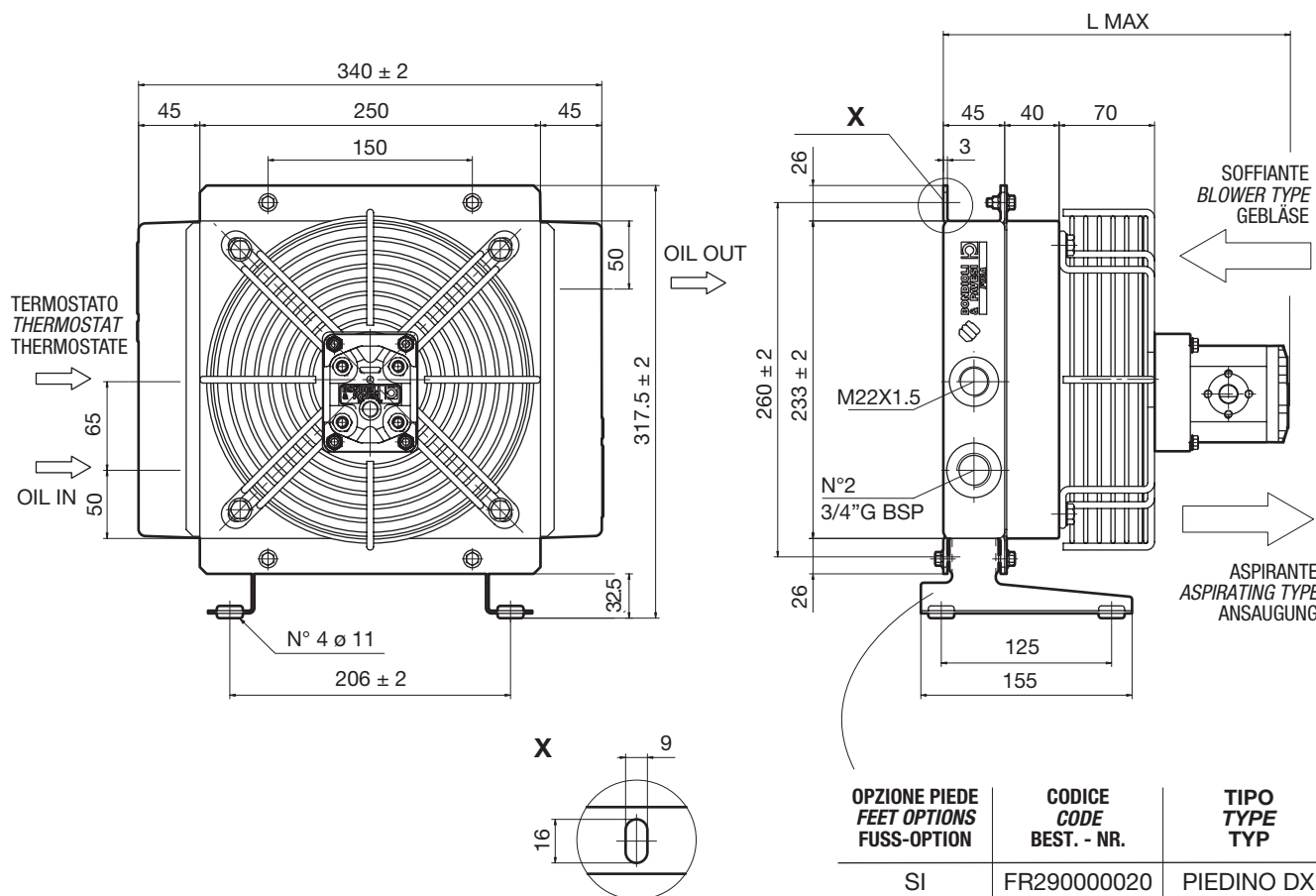
Lo scambiatore non prevede di serie il termostato e i piedini. Vedere per i piedini ogni singolo modello. Riferirsi a pag. 24 per informazioni sugli accessori, le possibilità di scelta e le istruzioni di ordinazione.

NOTE:

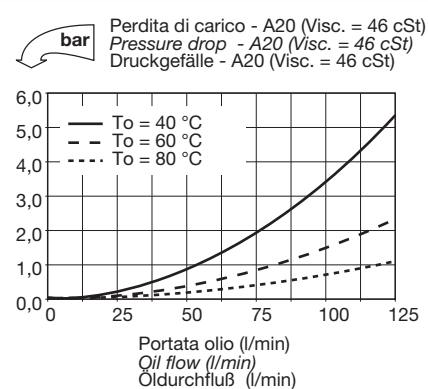
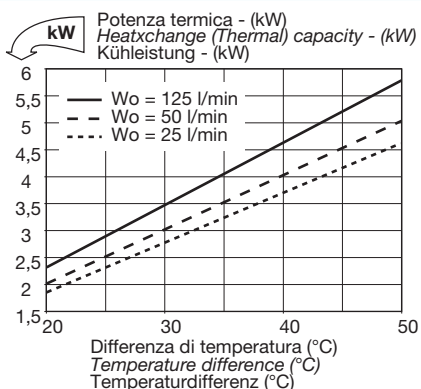
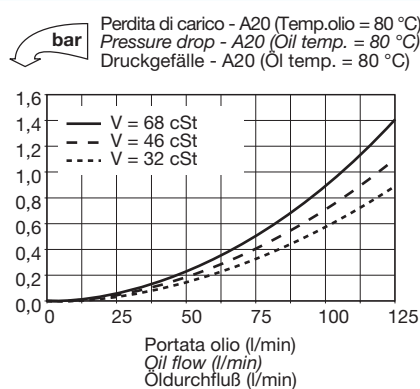
Heat exchangers are not equipped with thermostat and feet as a standard. Please refer to each model to have your heat exchanger supplied with feet, and to page 24 for accessories and for a description of available range and ordering instructions.

ANMERKUNG:

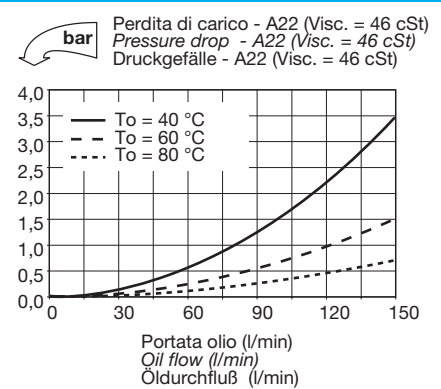
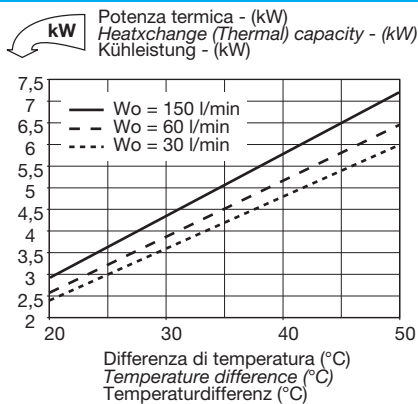
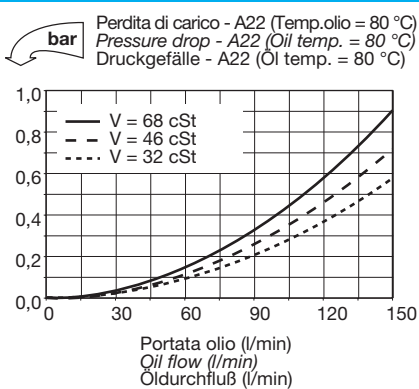
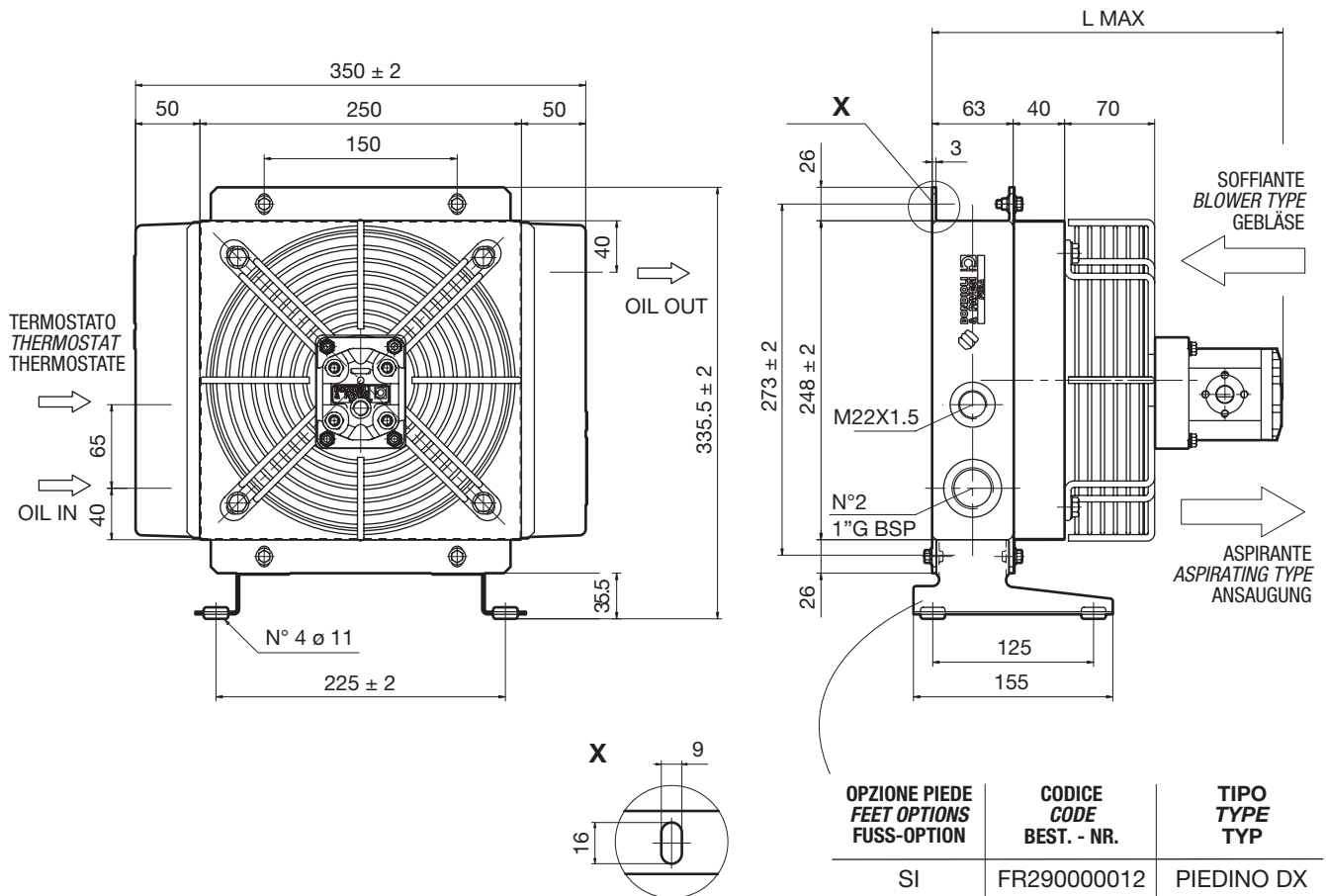
Der Wärmetauscher wird serienmässig ohne Füße und Thermostat geliefert. Die Füße sind bei jedem Modell ersichtlich. Auf Seite 24 sind Infos ueber Zubehör, Auswahlmöglichkeiten und Bestellnummern zu finden.



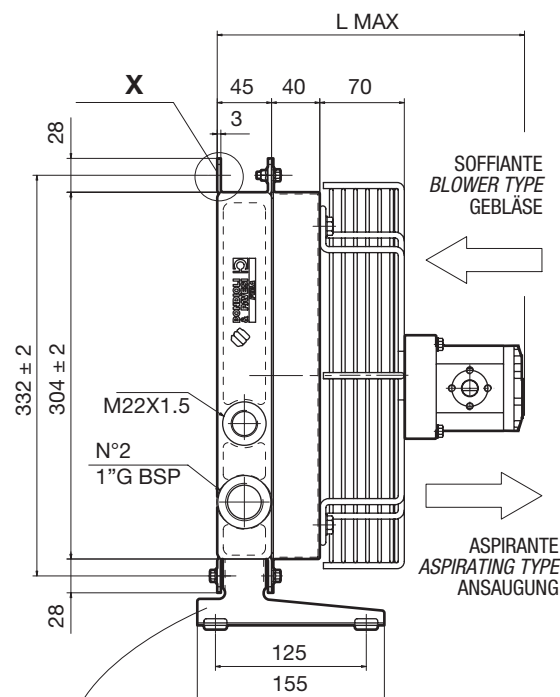
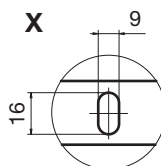
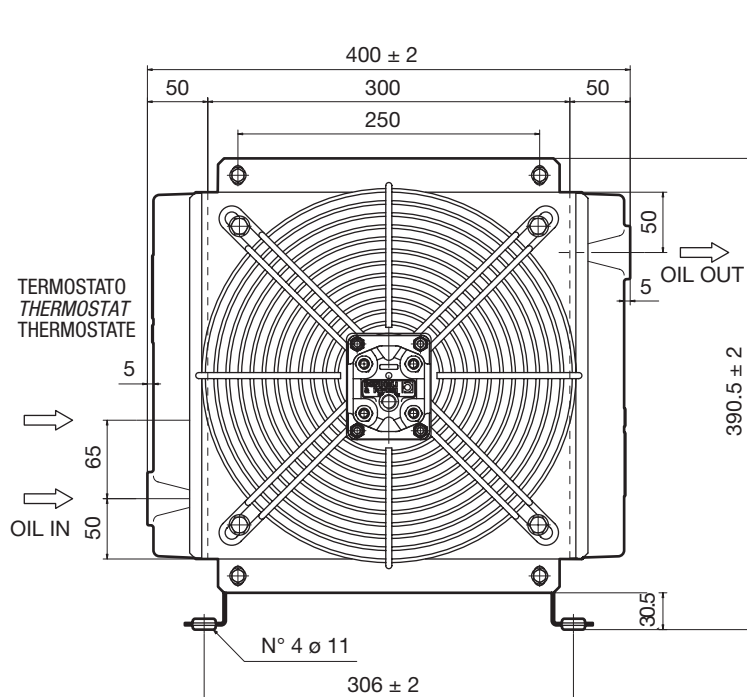
OPZIONE PIEDE FEET OPTIONS FUSS-OPTION	CODICE CODE BEST. - NR.	TIPO TYPE TYP
SI	FR290000020	PIEDINO DX
SI	FR290000019	PIEDINO SX



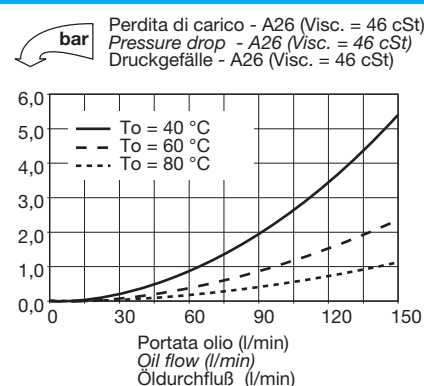
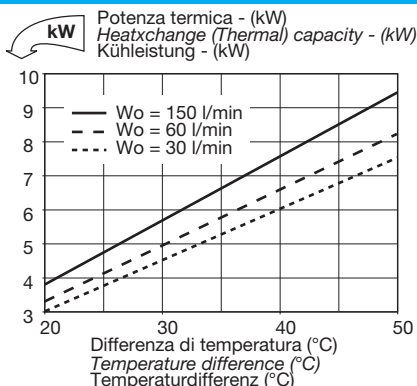
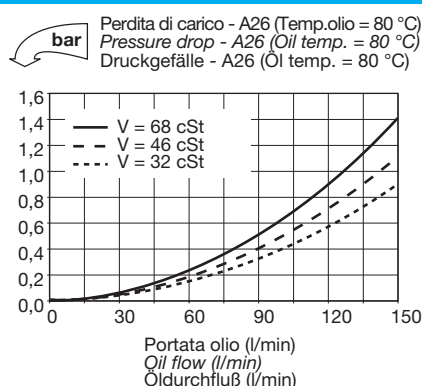
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634030011	SCM A20 IA PRED. GR1	220		195	6	1,45
FR634030012	SCM A20 IS PRED. GR1	220		195	6	1,45
FR634030013	SCM A20 IA MOT. IDR. GR1	220	6	255	7	1,45
FR634030014	SCM A20 IS MOT. IDR. GR1	220	6	255	7	1,45



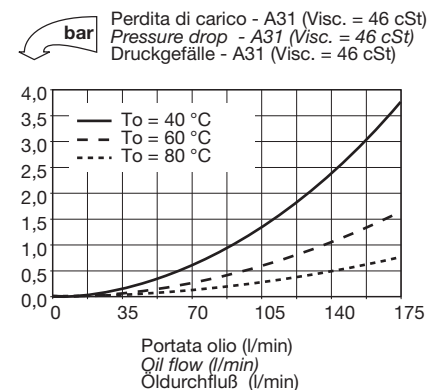
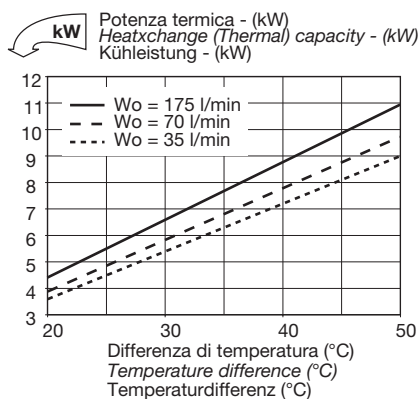
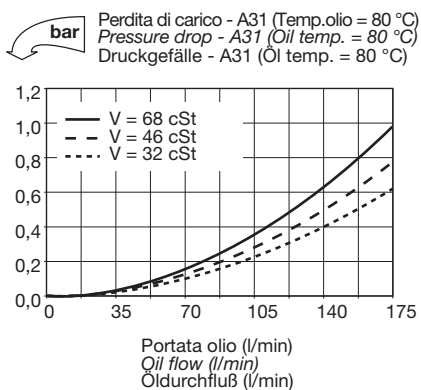
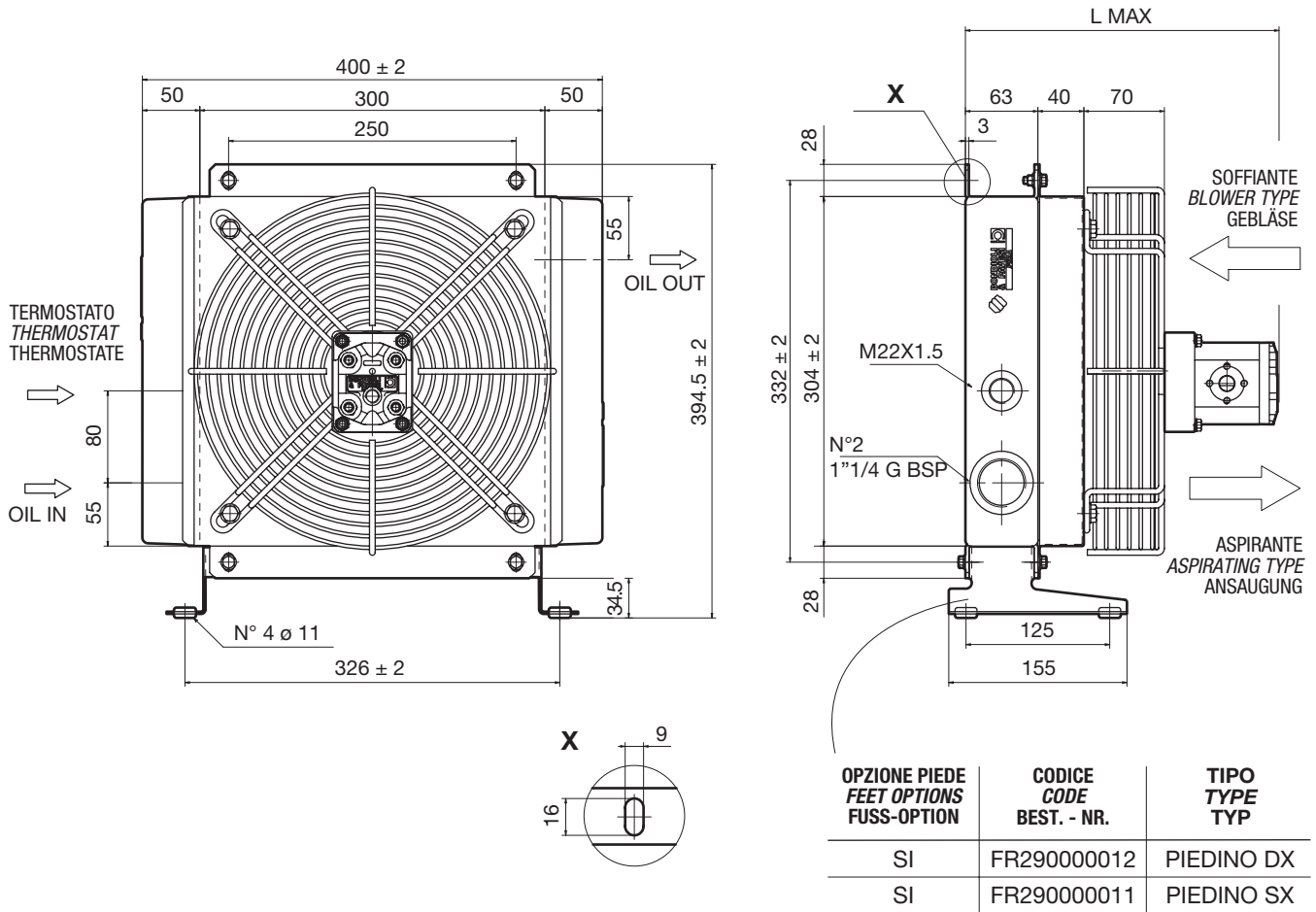
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634110011	SCM A22 IA PRED. GR1	220		215	8	1,7
FR634110012	SCM A22 IS PRED. GR1	220		215	8	1,7
FR634110013	SCM A22 IA MOT. IDR. GR1	220	6	275	9	1,7
FR634110014	SCM A22 IS MOT. IDR. GR1	220	6	275	9	1,7



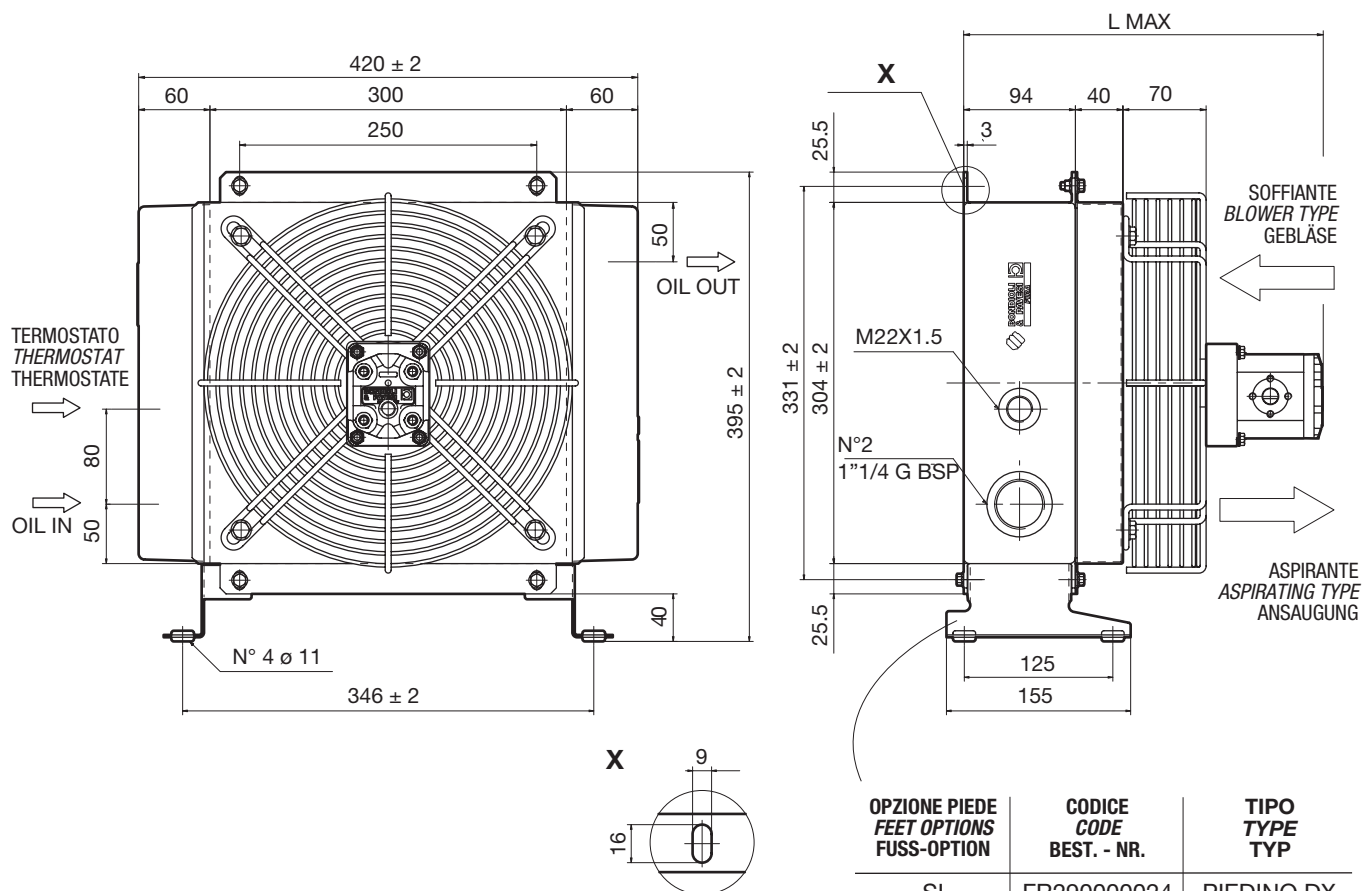
OPZIONE PIEDE FEET OPTIONS FUSS-OPTION	CODICE CODE BEST. - NR.	TIPO TYPE TYP
SI	FR290000020	PIEDINO DX
SI	FR290000019	PIEDINO SX



CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634130011	SCM A26 IA PRED. GR1	290		195	9	2,3
FR634130012	SCM A26 IS PRED. GR1	290		195	9	2,3
FR634130013	SCM A26 IA MOT. IDR. GR1	290	6	255	10	2,3
FR634130014	SCM A26 IS MOT. IDR. GR1	290	6	255	10	2,3

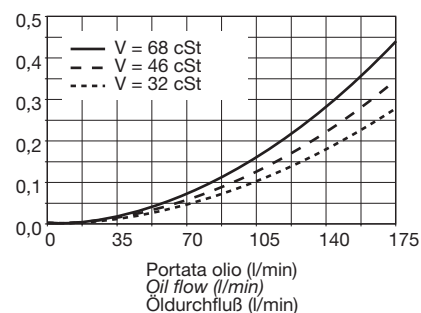


CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634170011	SCM A31 IA PRED. GR1	290		215	13	3,2
FR634170012	SCM A31 IS PRED. GR1	290		215	13	3,2
FR634170013	SCM A31 IA MOT. IDR. GR1	290	6	275	14	3,2
FR634170014	SCM A31 IS MOT. IDR. GR1	290	6	275	14	3,2

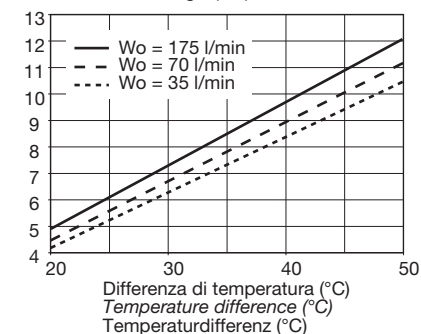


OPZIONE PIEDE FEET OPTIONS FUSS-OPTION	CODICE CODE BEST.-NR.	TIPO TYPE TYP
SI	FR290000024	PIEDINO DX
SI	FR290000023	PIEDINO SX

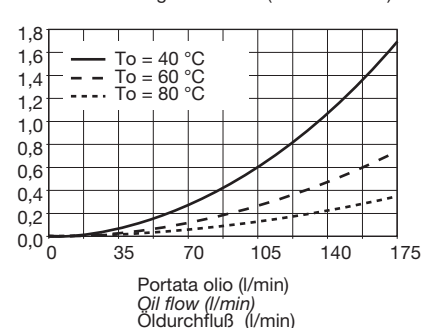
bar Perdita di carico - A35 (Temp.olio = 80°C)
Pressure drop - A35 (Oil temp. = 80°C)
Druckgefälle - A35 (Öl temp. = 80°C)



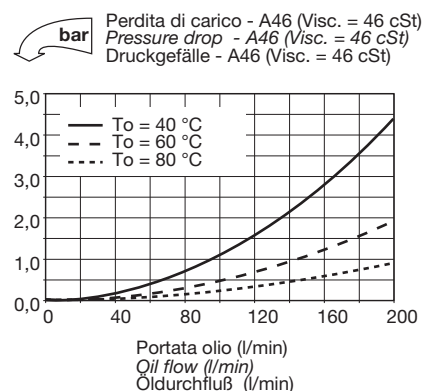
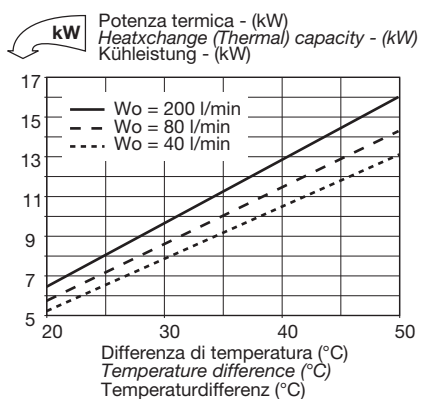
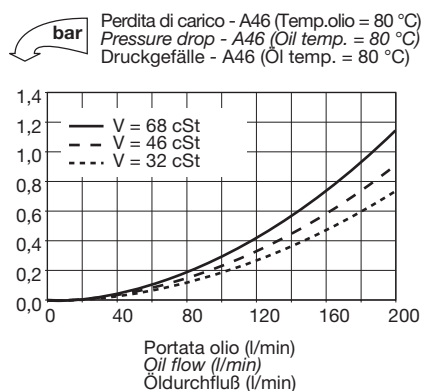
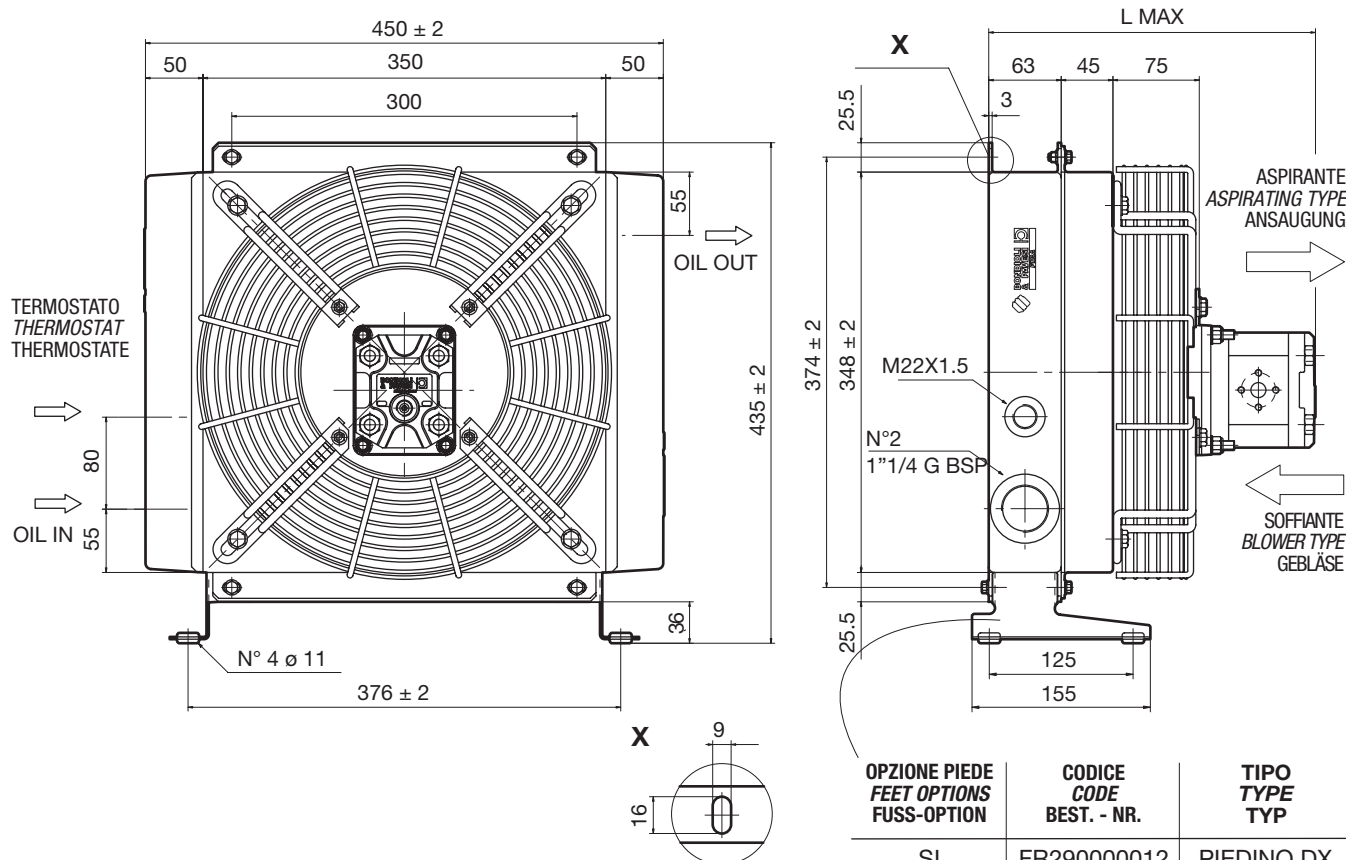
kW Potenza termica - (kW)
Heatxchange (Thermal) capacity - (kW)
Kühlleistung - (kW)



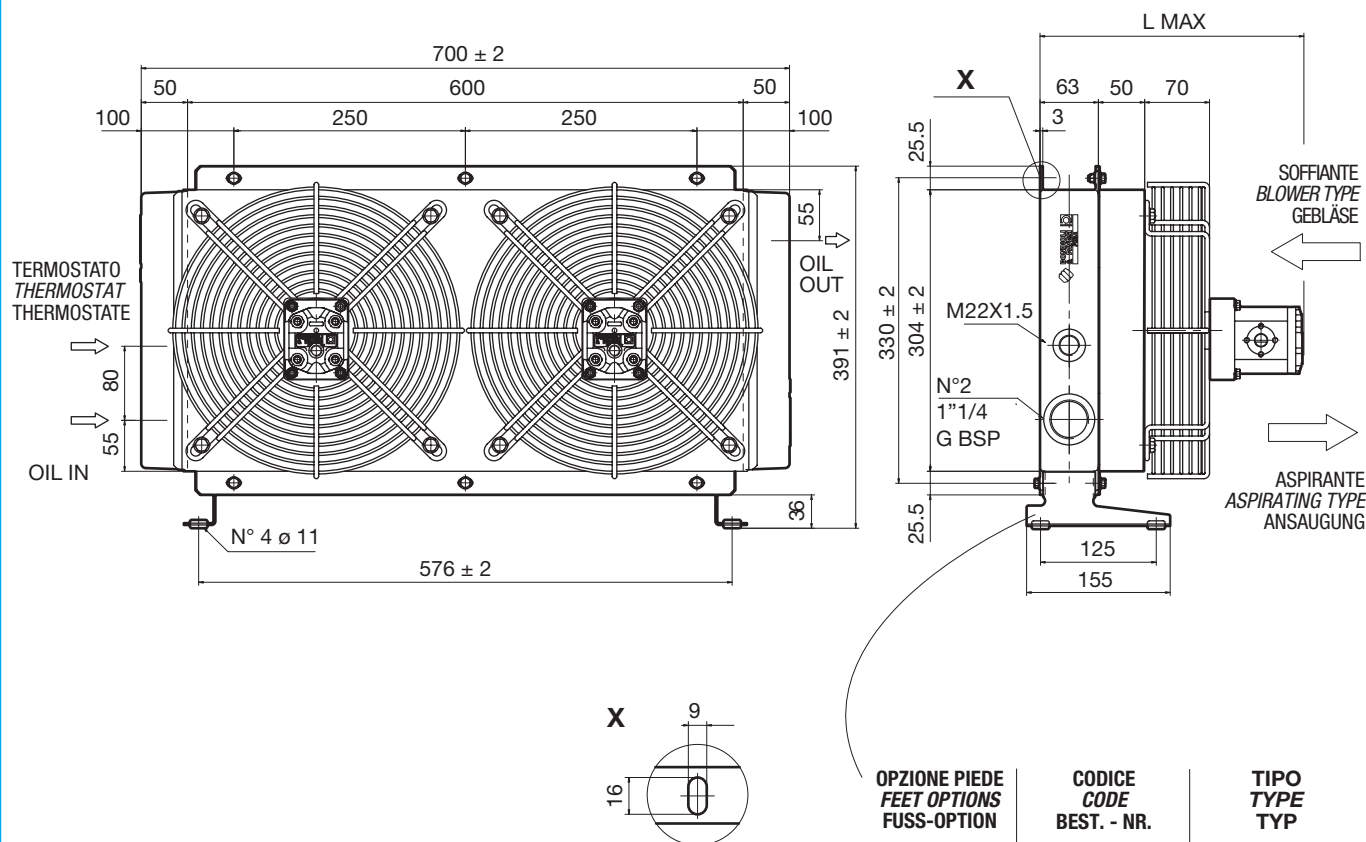
bar Perdita di carico - A35 (Visc. = 46 cSt)
Pressure drop - A35 (Visc. = 46 cSt)
Druckgefälle - A35 (Visc. = 46 cSt)



CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm^3	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634060011	SCM A35 IA PRED. GR1	290		250	17	4,8
FR634060012	SCM A35 IS PRED. GR1	290		250	17	4,8
FR634060013	SCM A35 IA MOT. IDR. GR1	290	6	305	18	4,8
FR634060014	SCM A35 IS MOT. IDR. GR1	290	6	305	18	4,8

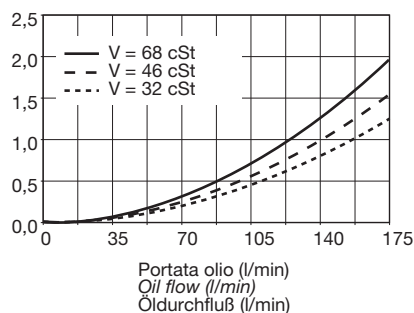


CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634200001	SCM A46 IA PRED. GR2	340		225	14	4
FR634200002	SCM A46 IS PRED. GR2	340		225	14	4
FR634200003	SCM A46 IA MOT. IDR. GR2	340	6	285	15	4
FR634200004	SCM A46 IS MOT. IDR. GR2	340	6	285	15	4

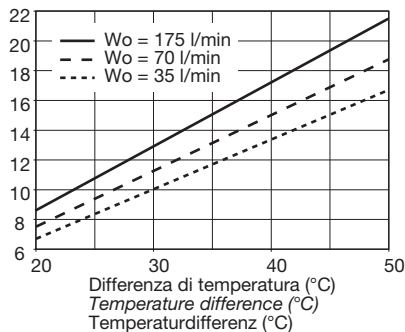


OPZIONE PIEDE FEET OPTIONS FUSS-OPTION	CODICE CODE BEST.-NR.	TIPO TYPE TYP
SI	FR290000012	PIEDINO DX
SI	FR290000011	PIEDINO SX

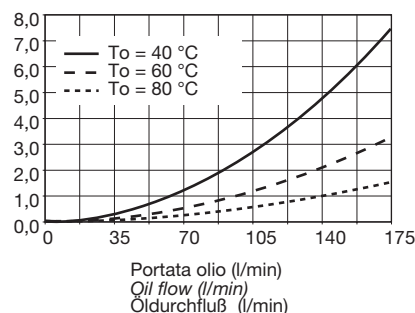
bar Perdita di carico - A48 (Temp.olio = 80°C)
Pressure drop - A48 (Oil temp. = 80°C)
Druckgefälle - A48 (Öl temp. = 80°C)



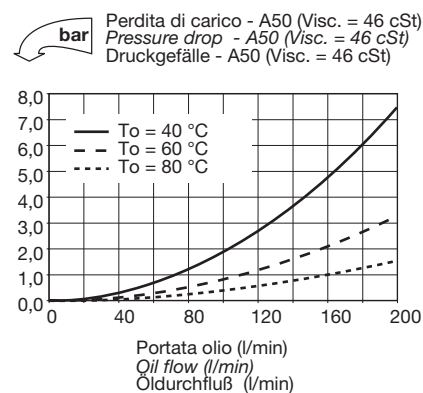
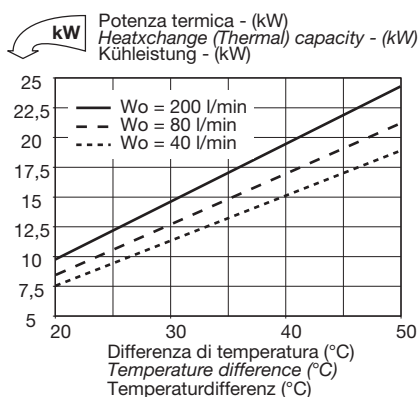
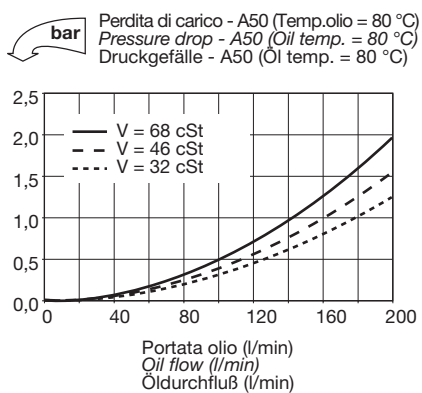
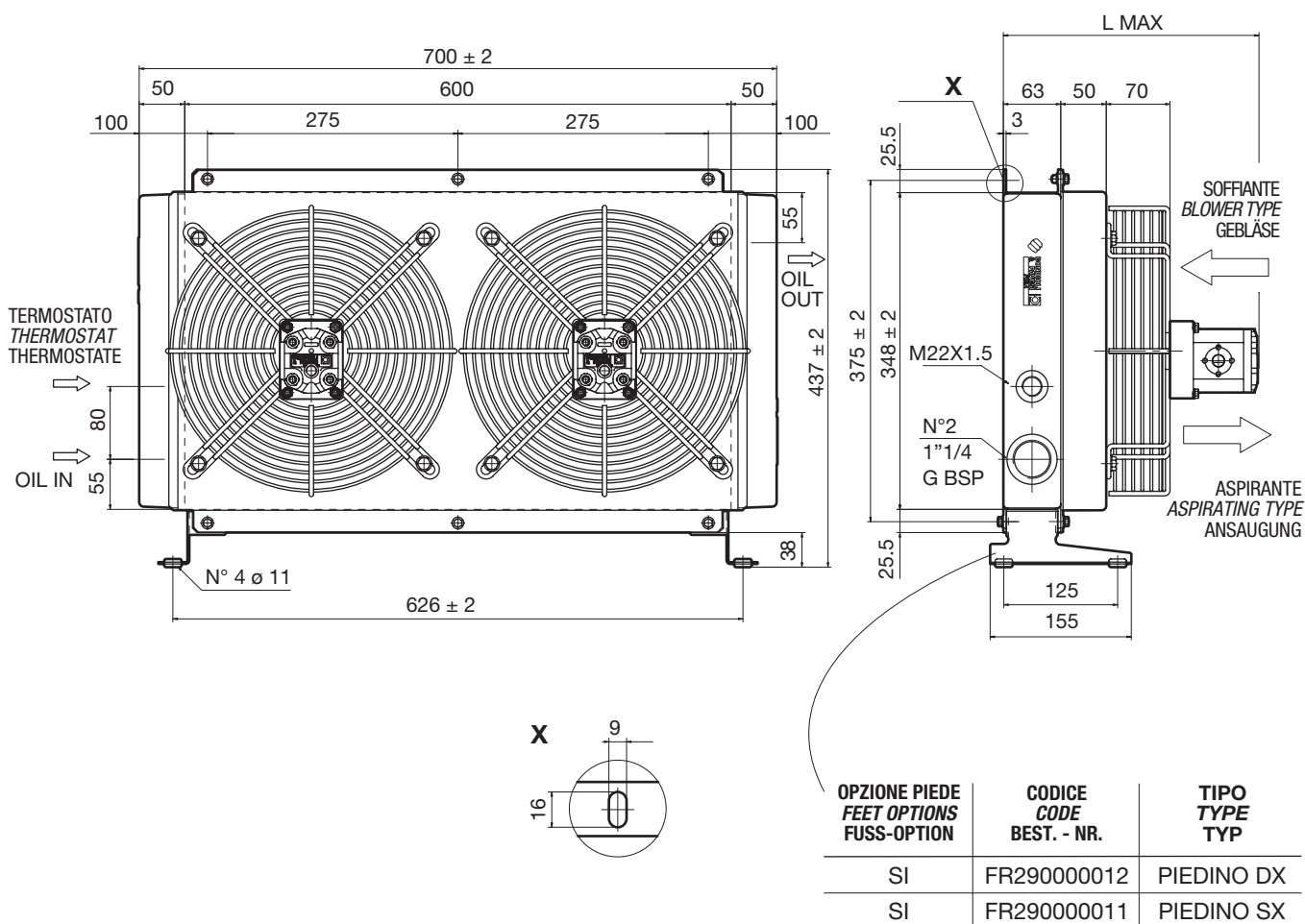
kW Potenza termica - (kW)
Heatxchange (Thermal) capacity - (kW)
Kühlleistung - (kW)



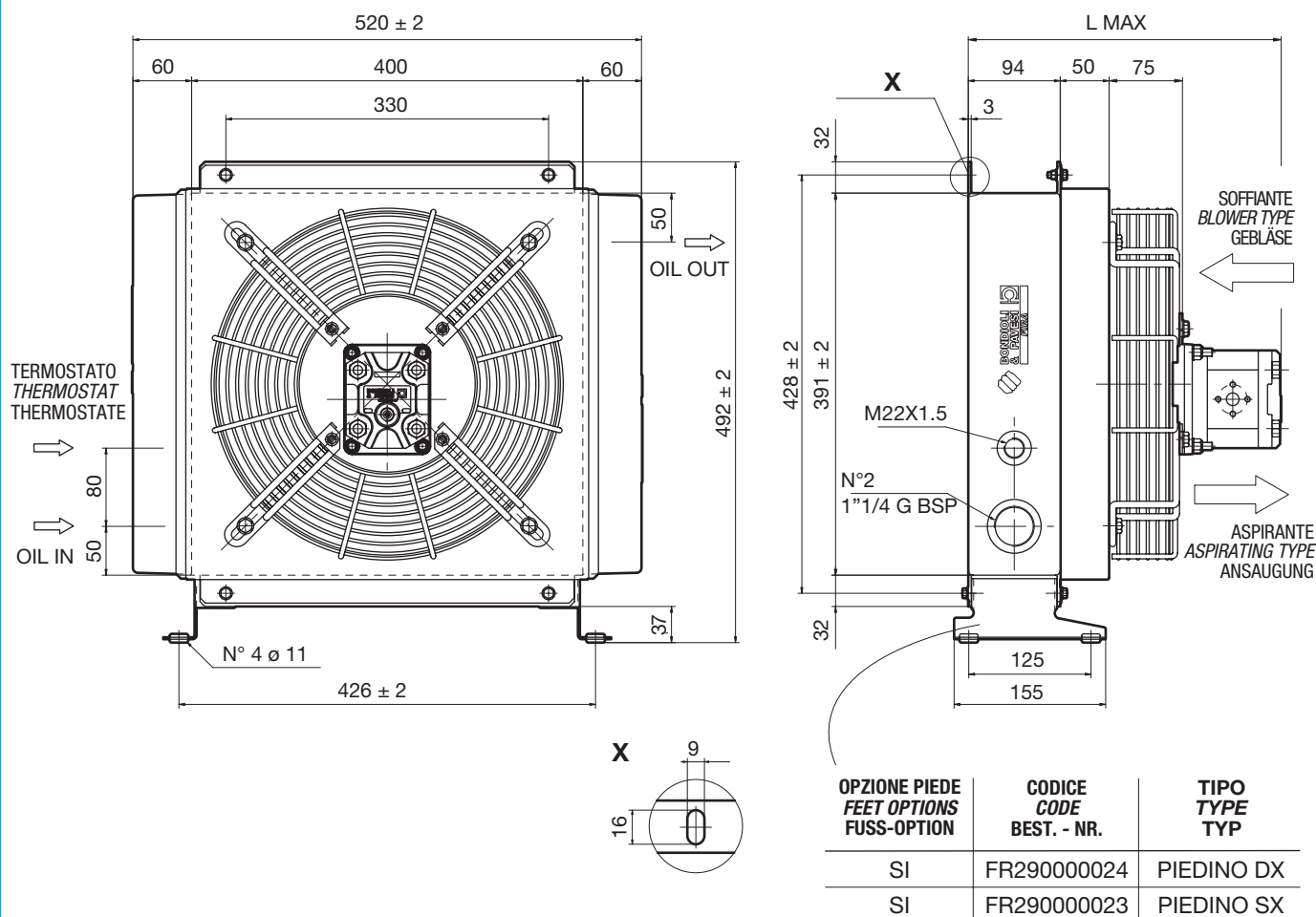
bar Perdita di carico - A48 (Visc. = 46 cSt)
Pressure drop - A48 (Visc. = 46 cSt)
Druckgefälle - A48 (Visc. = 46 cSt)



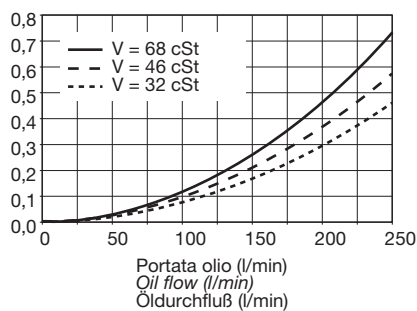
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm^3	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634210001	SCM A48 IA PRED. GR1	2X290		230	18	3,2
FR634210002	SCM A48 IS PRED. GR1	2X290		230	18	3,2
FR634210003	SCM A48 IA MOT. IDR. GR1	2X290	6	285	19	3,2
FR634210004	SCM A48 IS MOT. IDR. GR1	2X290	6	285	19	3,2



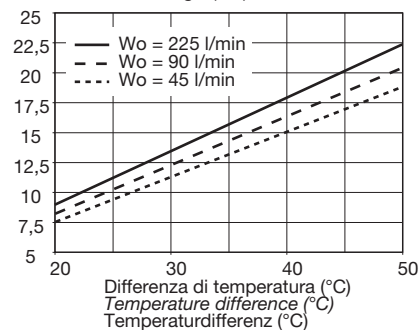
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634100011	SCM A50 IA PRED. GR1	2X290		230	20	3,4
FR634100012	SCM A50 IS PRED. GR1	2X290		230	20	3,4
FR634100013	SCM A50 IA MOT. IDR. GR1	2X290	6	285	21	3,4
FR634100014	SCM A50 IS MOT. IDR. GR1	2X290	6	285	21	3,4



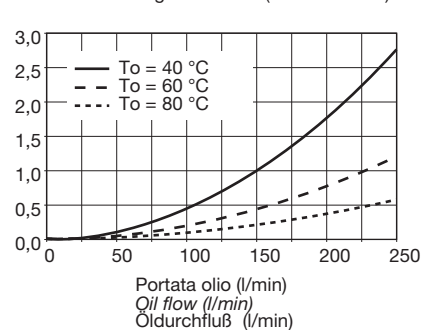
bar Perdita di carico - A56 (Temp.olio = 80 °C)
Pressure drop - A56 (Oil temp. = 80 °C)
Druckgefälle - A56 (Öl temp. = 80 °C)



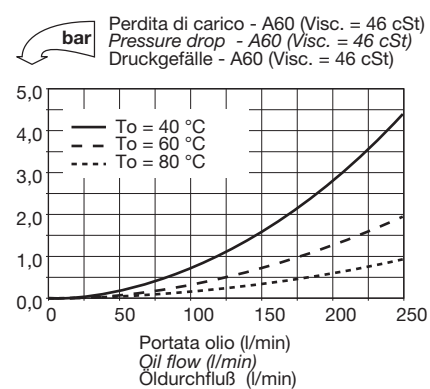
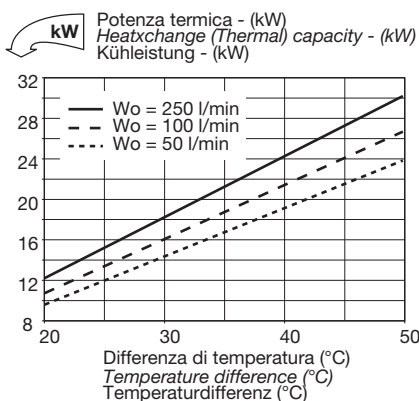
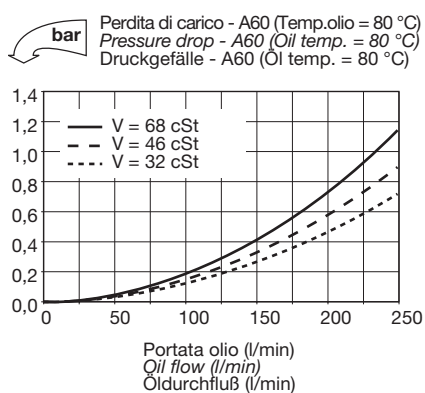
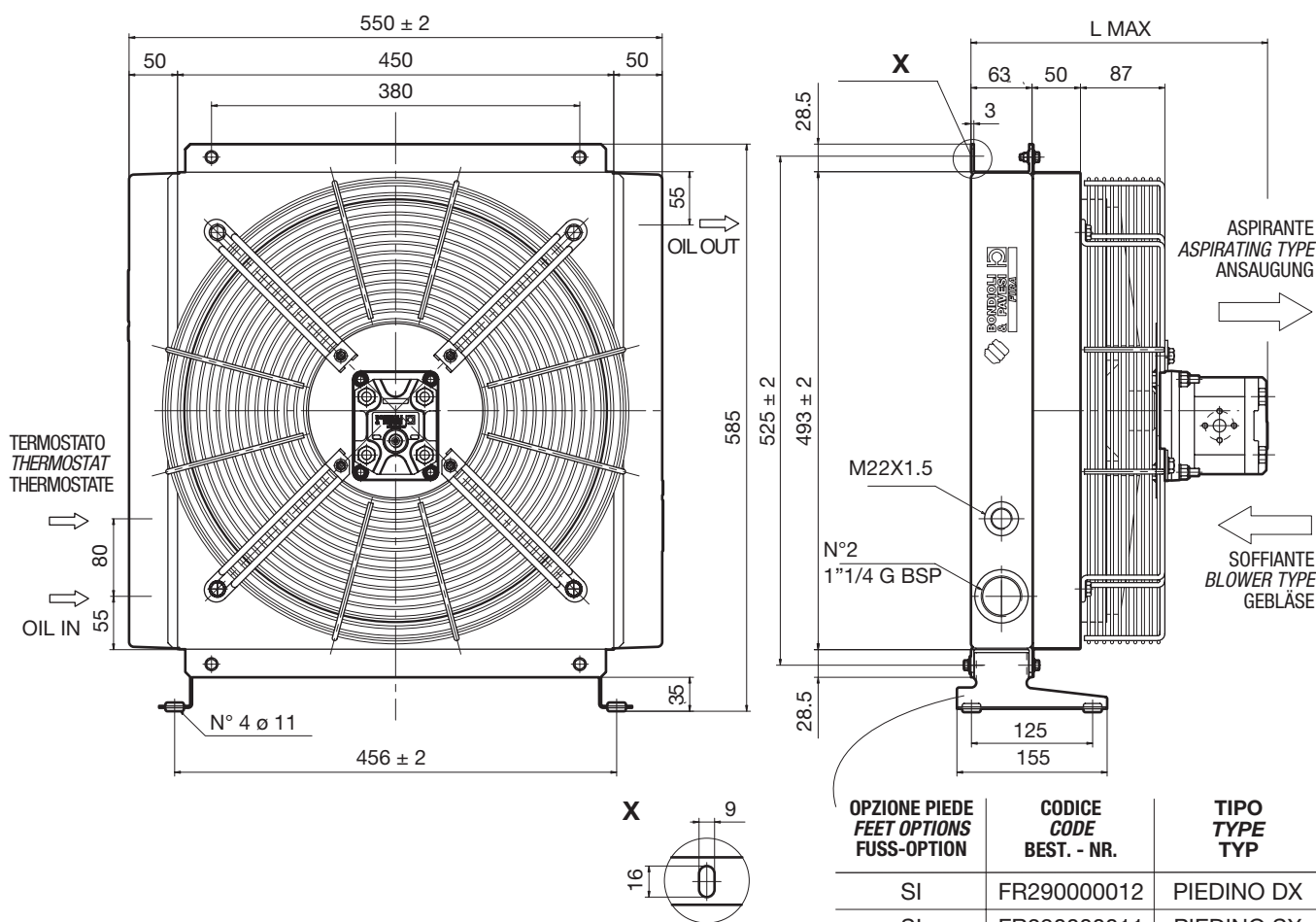
kW Potenza termica - (kW)
Heatxchange (Thermal) capacity - (kW)
Kühleistung - (kW)



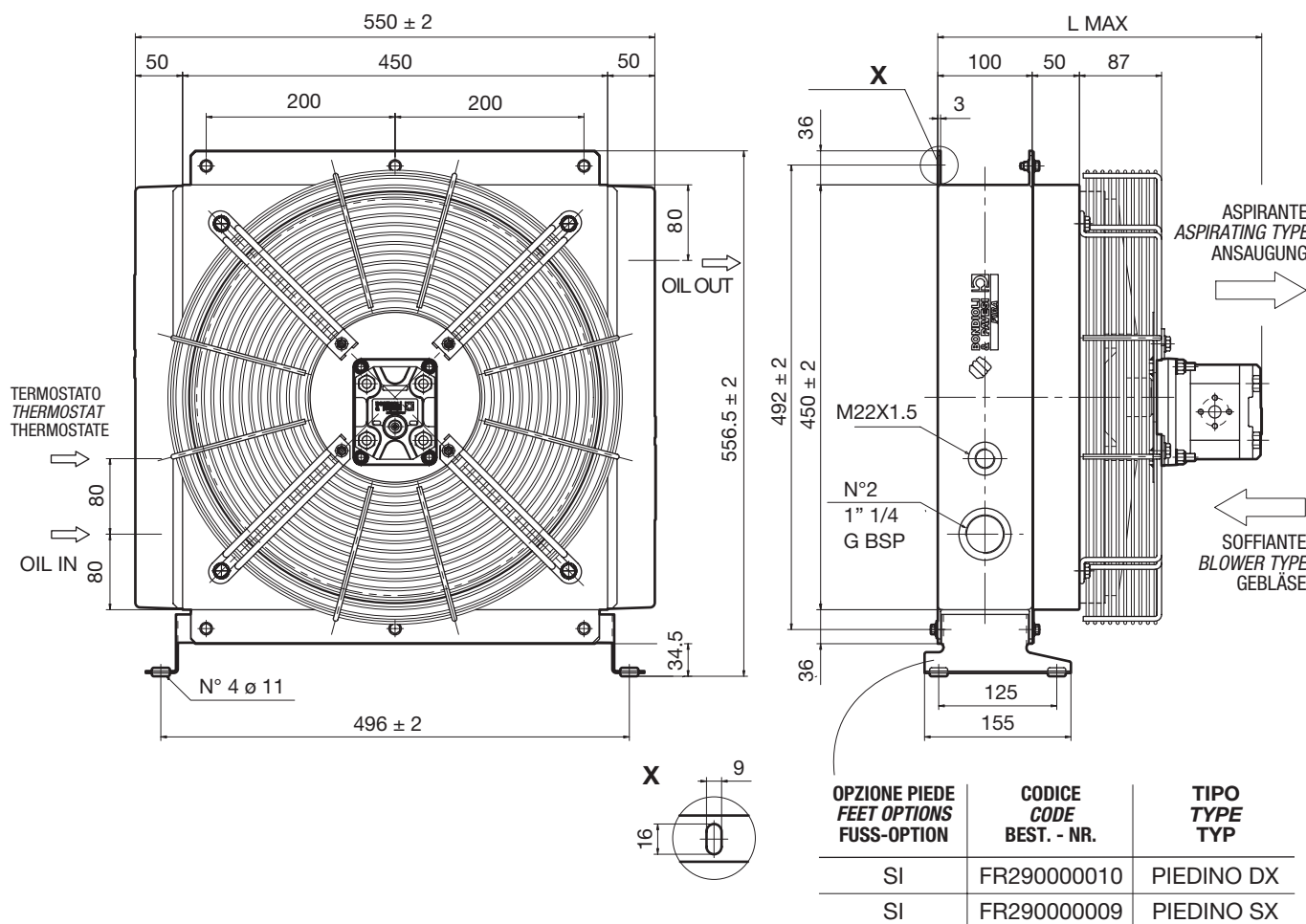
bar Perdita di carico - A56 (Visc. = 46 cSt)
Pressure drop - A56 (Visc. = 46 cSt)
Druckgefälle - A56 (Visc. = 46 cSt)



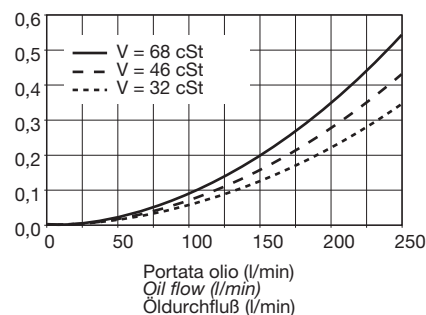
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634220001	SCM A56 IA PRED. GR2	340		260	18	7,5
FR634220002	SCM A56 IS PRED. GR2	340		260	18	7,5
FR634220003	SCM A56 IA MOT. IDR. GR2	340	6	320	19	7,5
FR634220004	SCM A56 IS MOT. IDR. GR2	340	6	320	19	7,5



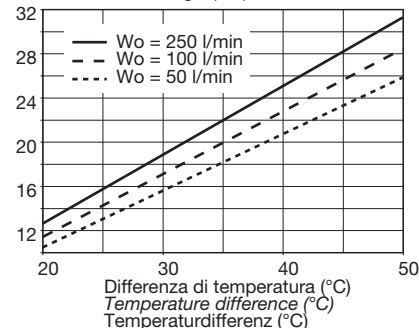
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634090011	SCM A60 IA PRED. GR2	420		250	20	5,7
FR634090012	SCM A60 IS PRED. GR2	420		250	20	5,7
FR634090013	SCM A60 IA MOT. IDR. GR2	420	6	310	21	5,7
FR634090014	SCM A60 IS MOT. IDR. GR2	420	6	310	21	5,7



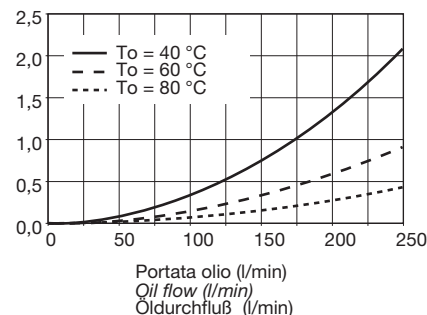
Perdita di carico - A65 (Temp.olio = 80°C)
 Pressure drop - A65 (Oil temp. = 80°C)
 Druckgefälle - A65 (Öl temp. = 80°C)



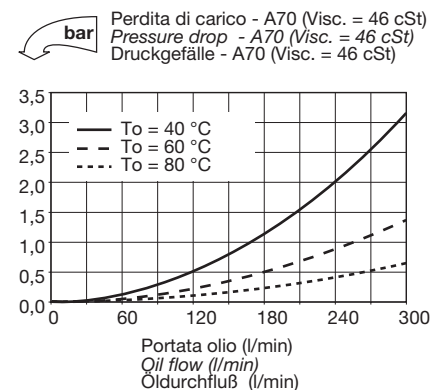
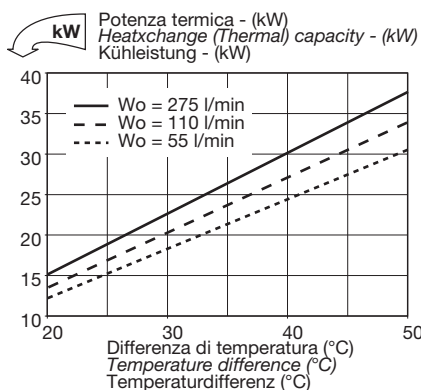
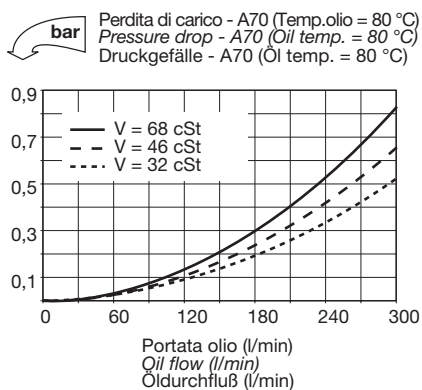
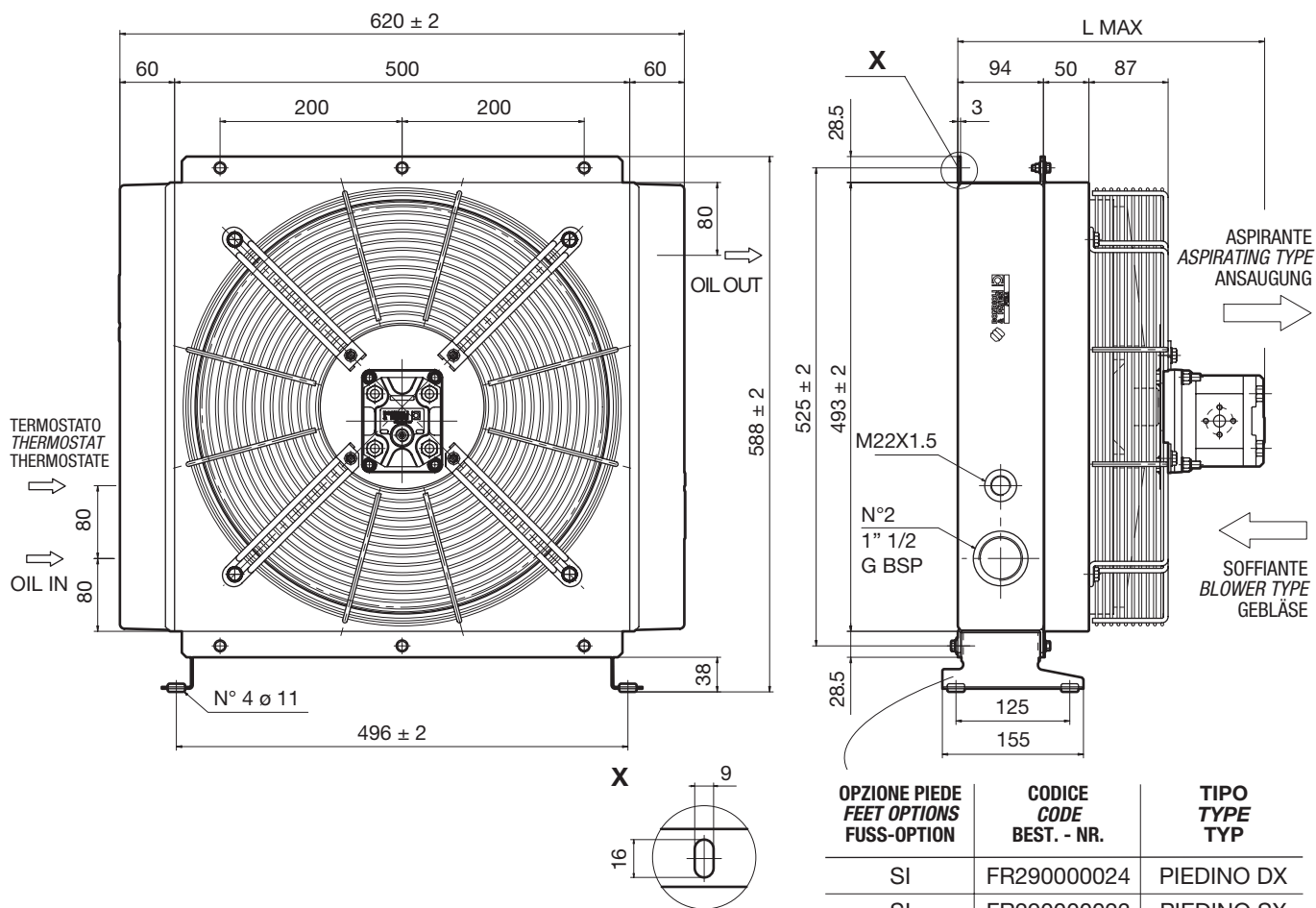
Potenza termica - (kW)
 Heatxchange (Thermal)
 capacity - (kW)
 Kühlleistung - (kW)



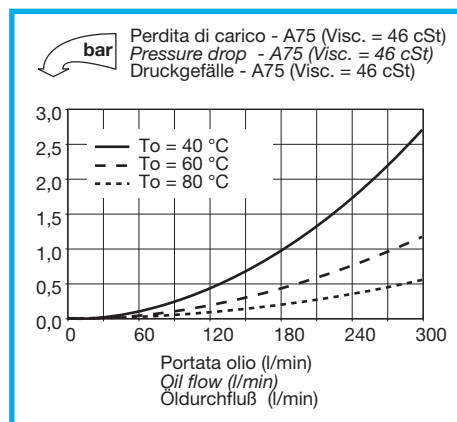
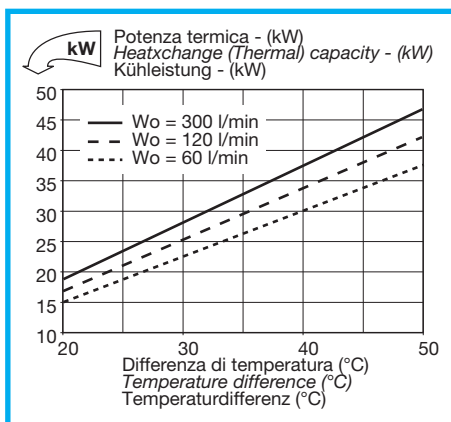
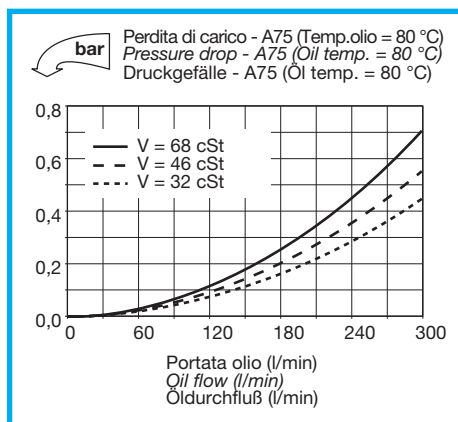
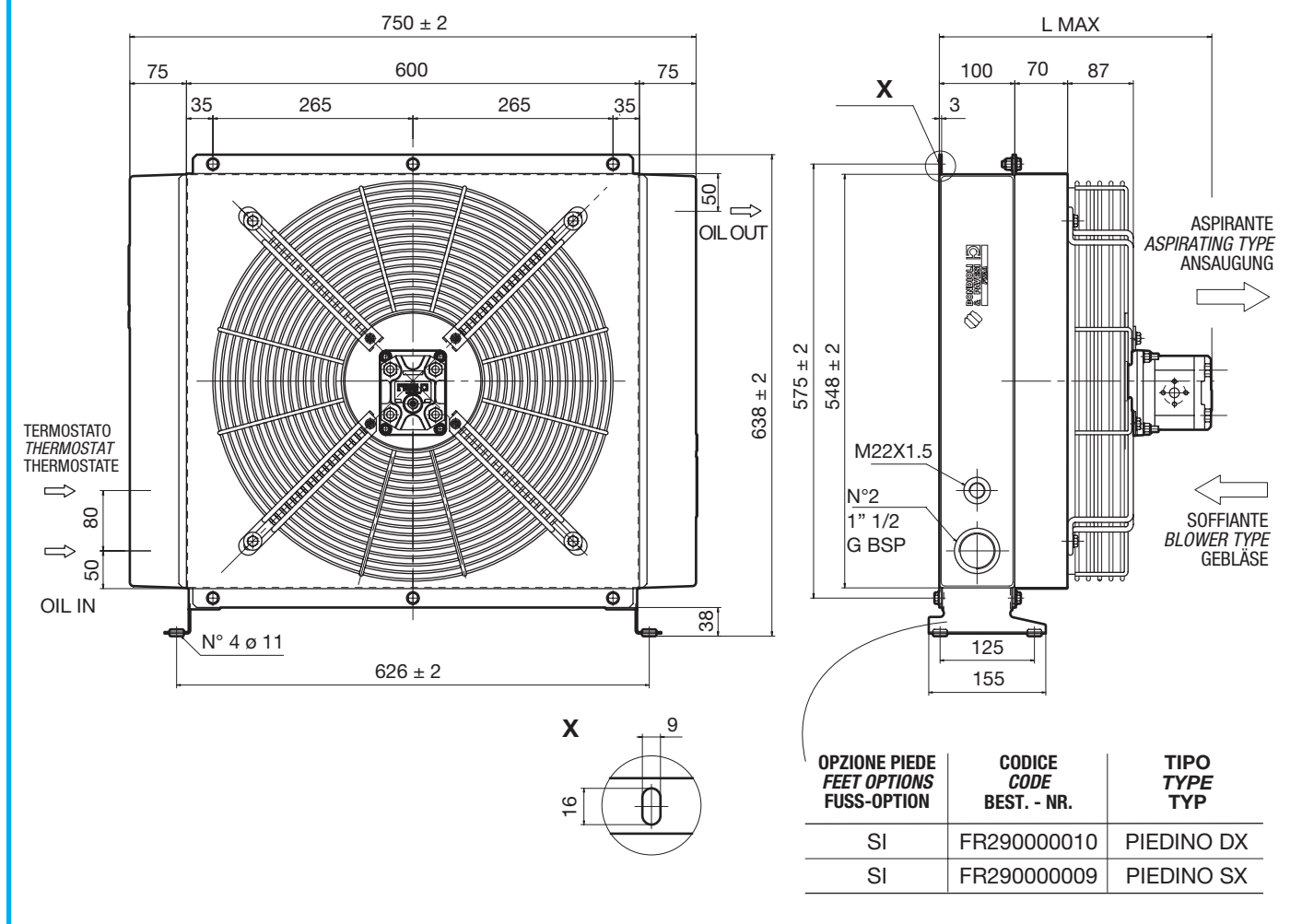
Perdita di carico - A65 (Visc. = 46 cSt)
 Pressure drop - A65 (Visc. = 46 cSt)
 Druckgefälle - A65 (Visc. = 46 cSt)



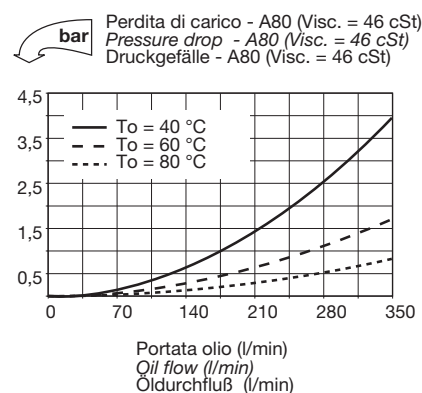
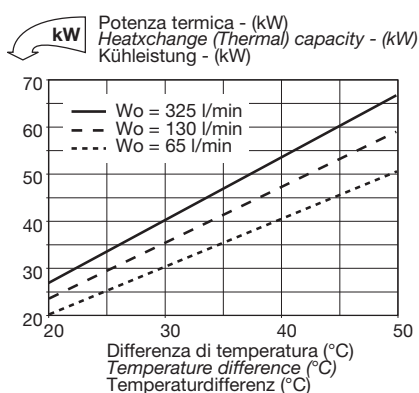
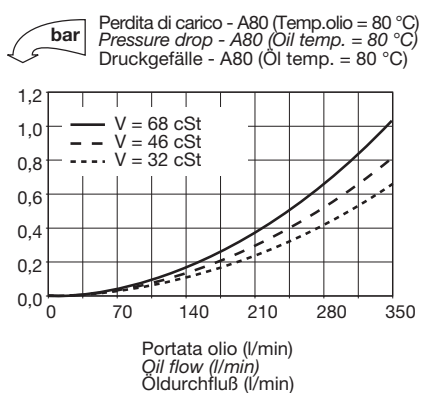
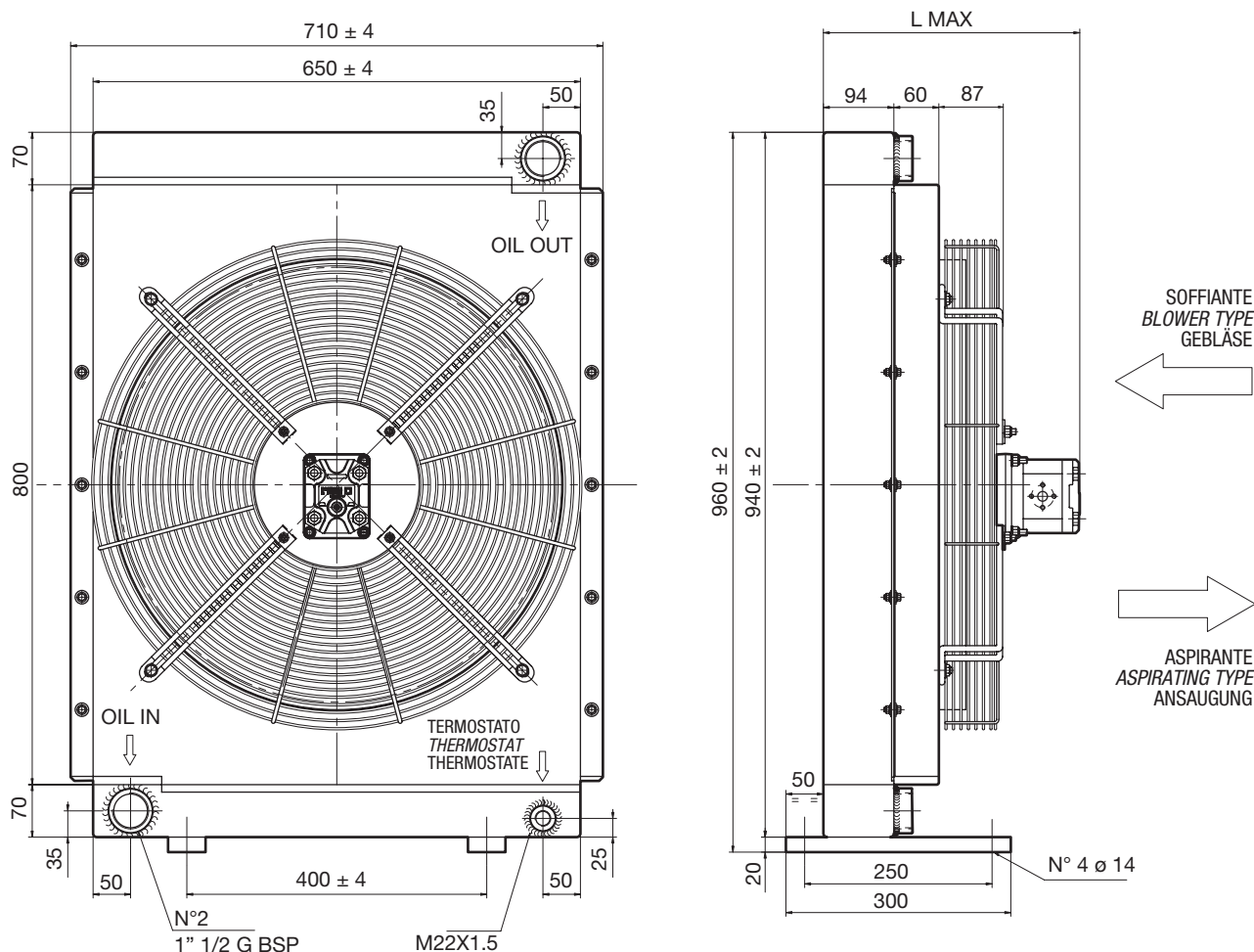
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634120004	SCM A65 IA PRED. GR2	420		285	23	8,5
FR634120006	SCM A65 IS PRED. GR2	420		285	23	8,5
FR634120013	SCM A65 IA MOT. IDR. GR2	420	6	345	24	8,5
FR634120014	SCM A65 IS MOT. IDR. GR2	420	6	345	24	8,5



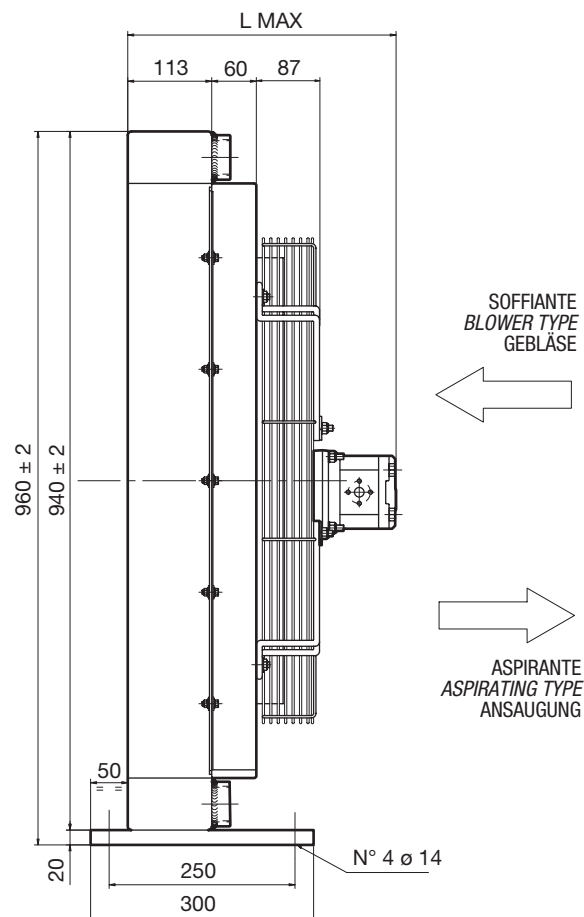
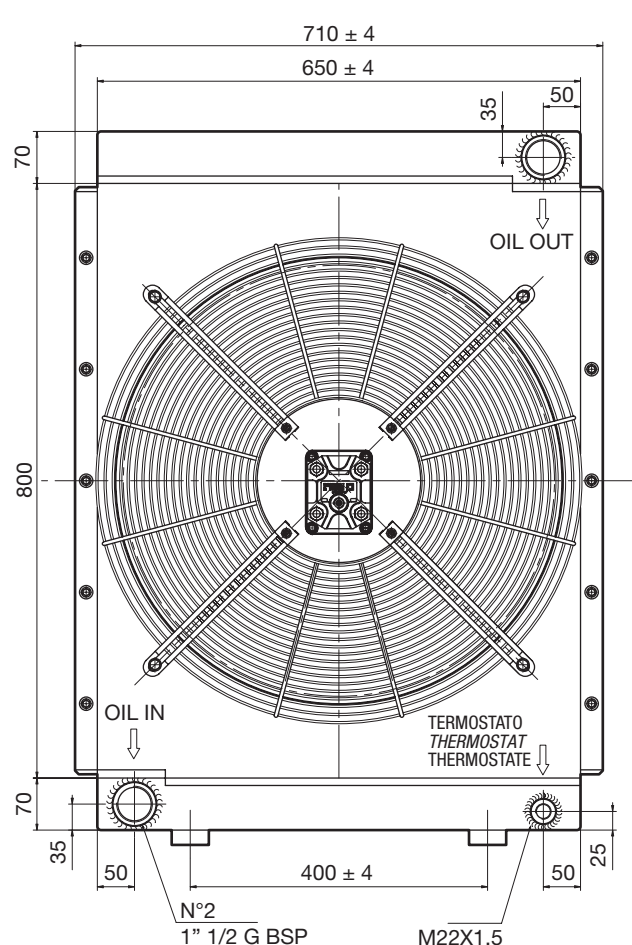
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634230001	SCM A70 IA PRED. GR2	440		280	25	10,5
FR634230002	SCM A70 IS PRED. GR2	440		280	25	10,5
FR634230003	SCM A70 IA MOT. IDR. GR2	440	6	340	26	10,5
FR634230004	SCM A70 IS MOT. IDR. GR2	440	6	340	26	10,5



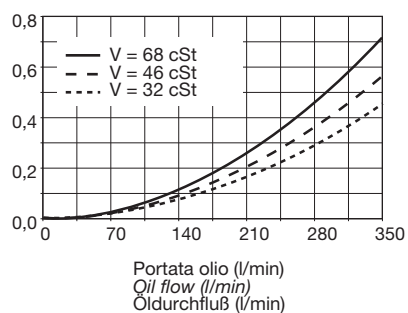
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634140003	SCM A75 IA PRED. GR2	500		305	26	14
FR634140004	SCM A75 IS PRED. GR2	500		305	26	14
FR634140013	SCM A75 IA MOT. IDR. GR2	500	11	365	27	14
FR634140014	SCM A75 IS MOT. IDR. GR2	500	11	365	27	14



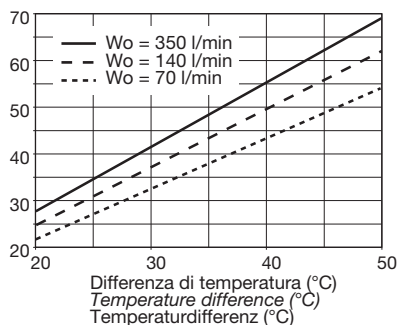
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634150003	SCM A80 IA PRED. GR2	580		280	46	18
FR634150004	SCM A80 IS PRED. GR2	580		280	46	18
FR634150013	SCM A80 IA MOT. IDR. GR2	580	11	340	47	18
FR634150014	SCM A80 IS MOT. IDR. GR2	580	11	340	47	18



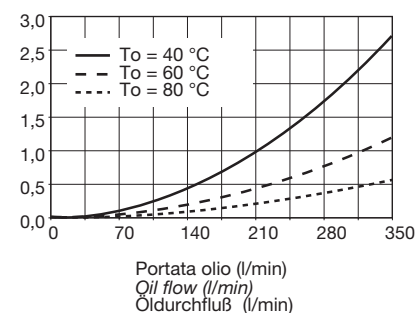
Perdita di carico - A83 (Temp.olio = 80 °C)
Pressure drop - A83 (Oil temp. = 80 °C)
Druckgefälle - A83 (Öl temp. = 80 °C)



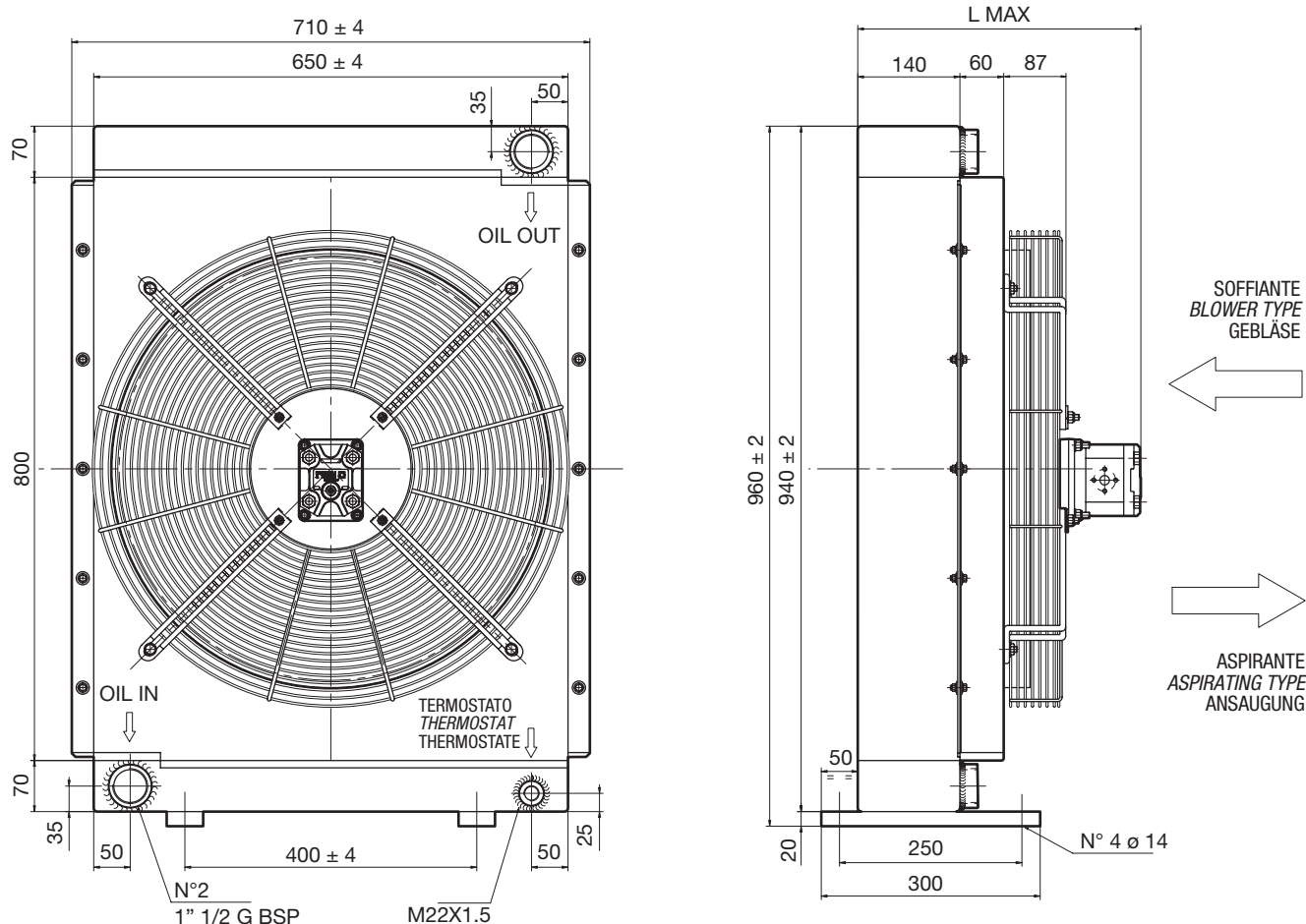
Potenza termica - (kW)
Heatxchange (Thermal) capacity - (kW)
Kühleistung - (kW)



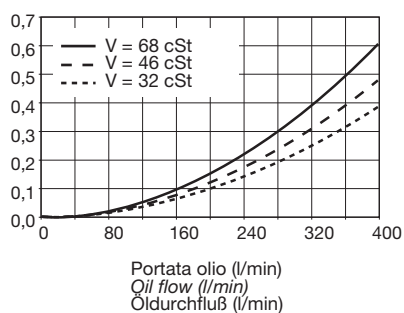
Perdita di carico - A83 (Visc. = 46 cSt)
Pressure drop - A83 (Visc. = 46 cSt)
Druckgefälle - A83 (Visc. = 46 cSt)



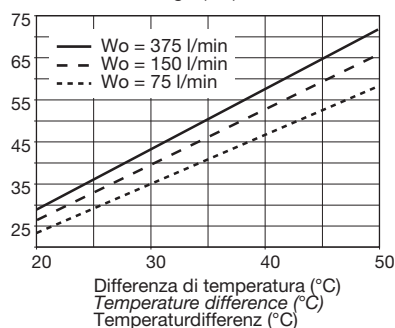
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634240001	SCM A83 IA PRED. GR2	580		300	53	23
FR634240002	SCM A83 IS PRED. GR2	580		300	53	23
FR634240013	SCM A83 IA MOT. IDR. GR2	580	11	360	54	23
FR634240014	SCM A83 IS MOT. IDR. GR2	580	11	360	54	23



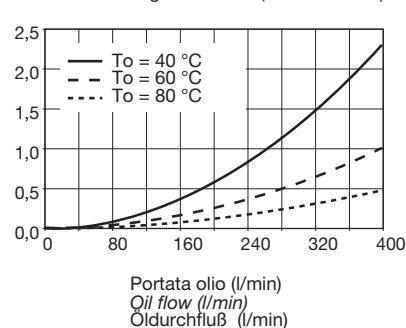
bar Perdita di carico - A86 (Temp.olio = 80 °C)
Pressure drop - A86 (Oil temp. = 80 °C)
Druckgefälle - A86 (Öl temp. = 80 °C)



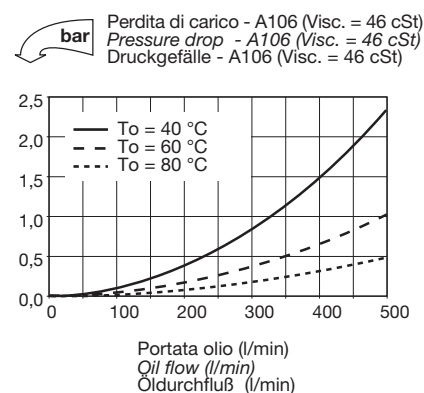
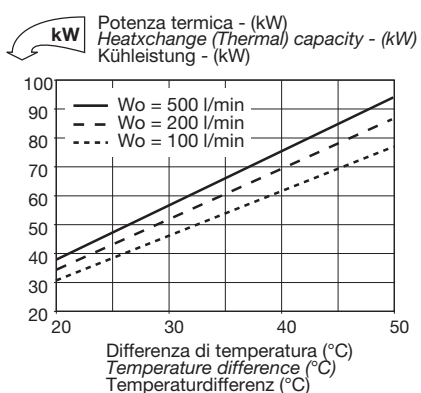
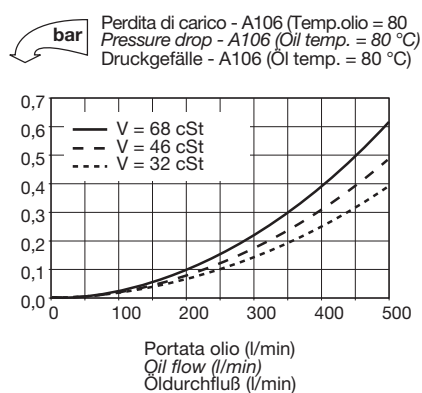
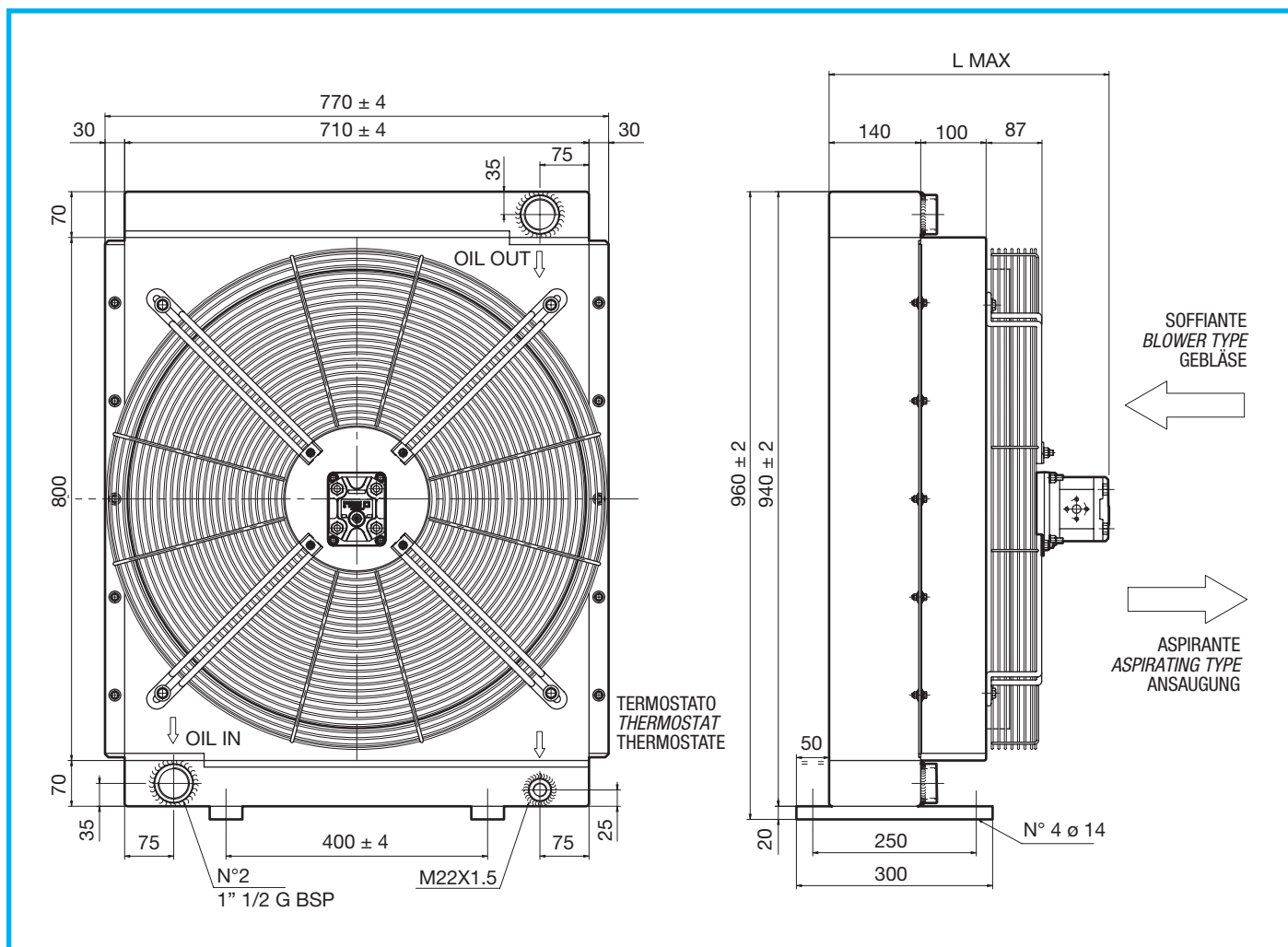
kW Potenza termica - (kW)
Heatxchange (Thermal) capacity - (kW)
Kühlleistung - (kW)



bar Perdita di carico - A86 (Visc. = 46 cSt)
Pressure drop - A86 (Visc. = 46 cSt)
Druckgefälle - A86 (Visc. = 46 cSt)

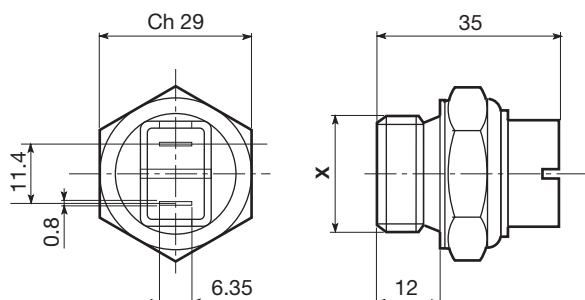


CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm ³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634260003	SCM A86 IA PRED. GR2	580		330	58	28
FR634260004	SCM A86 IS PRED. GR2	580		330	58	28
FR634260013	SCM A86 IA MOT. IDR. GR2	580	11	390	59	28
FR634260014	SCM A86 IS MOT. IDR. GR2	580	11	390	59	28



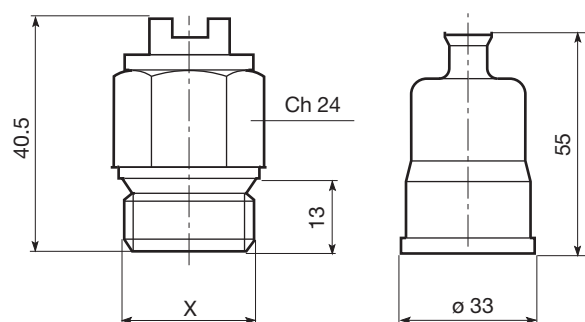
CODICE CODE BEST.-NR.	TIPO TYPE TYP	DIAMETRO VENTOLA FAN DIAMETER LÜFTERSDURCHMESSER mm	CILINDRATA MOTORE DISPLACEMENT MOTORS FÖRDERVOLUMEN MOTOR cm³	L MAX mm	MASSA WEIGHT GEWICHT Kg	CAPACITA' CAPACITY KAPAZITÄT lt
FR634270003	SCM A106 IA PRED. GR2	690		370	80	32
FR634270004	SCM A106 IS PRED. GR2	690		370	80	32
FR634270013	SCM A106 IA MOT. IDR. GR2	690	11	430	81	32
FR634270014	SCM A106 IS MOT. IDR. GR2	690	11	430	81	32

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THERMOSTATS
THERMOSTATE**



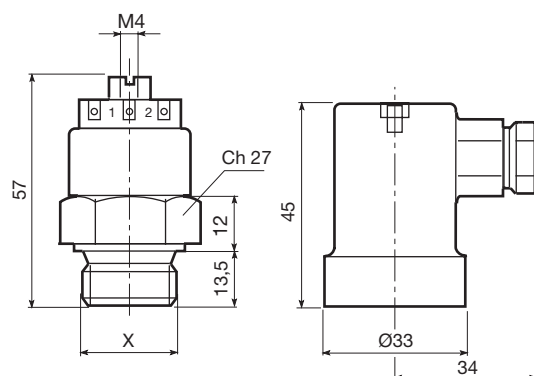
TEMPERATURE DI INTERVENTO (C°) TRIGGER TEMPERATURE (C°) SCHALTTEMPERATUR (C°)		CODICE CODE BEST.- NR
45 - 35	M22x1,5	FR 361104535
60 - 50	M22x1,5	FR 361106050
80 - 70	M22x1,5	FR 361108070
82 - 68	M22x1,5	FR 361108268
85 - 76	M22x1,5	FR 361108576

**TERMOSTATI PROTETTI IP54
IP54 PROTECTED THERMAL SWITCH
GESCHUTZTE THERMOSTATE IP 54**



TEMPERATURE DI INTERVENTO (C°) TRIGGER TEMPERATURE (C°) SCHALTTEMPERATUR (C°)		CODICE CODE BEST.- NR
45 - 35	M22x1,5	FR 361124535
50 - 40	M22x1,5	FR 361125040
60 - 50	M22x1,5	FR 361126050
70 - 60	M22x1,5	FR 361127060
80 - 70	M22x1,5	FR 361128070

**TERMOSTATI PROTETTI IP65
IP65 PROTECTED THERMAL SWITCH
GESCHUTZTE THERMOSTATE IP 65**



TEMPERATURE DI INTERVENTO (C°) TRIGGER TEMPERATURE (C°) SCHALTTEMPERATUR (C°)		CODICE CODE BEST.- NR
45 - 35	M22x1,5	FR 361154535
47 - 36	M22x1,5	FR 361155040
60 - 50	M22x1,5	FR 361156050
60 - 50	1/2" G	FR 361146050
70 - 60	1/2" G	FR 361147060
80 - 70	M22x1,5	FR 361158070

